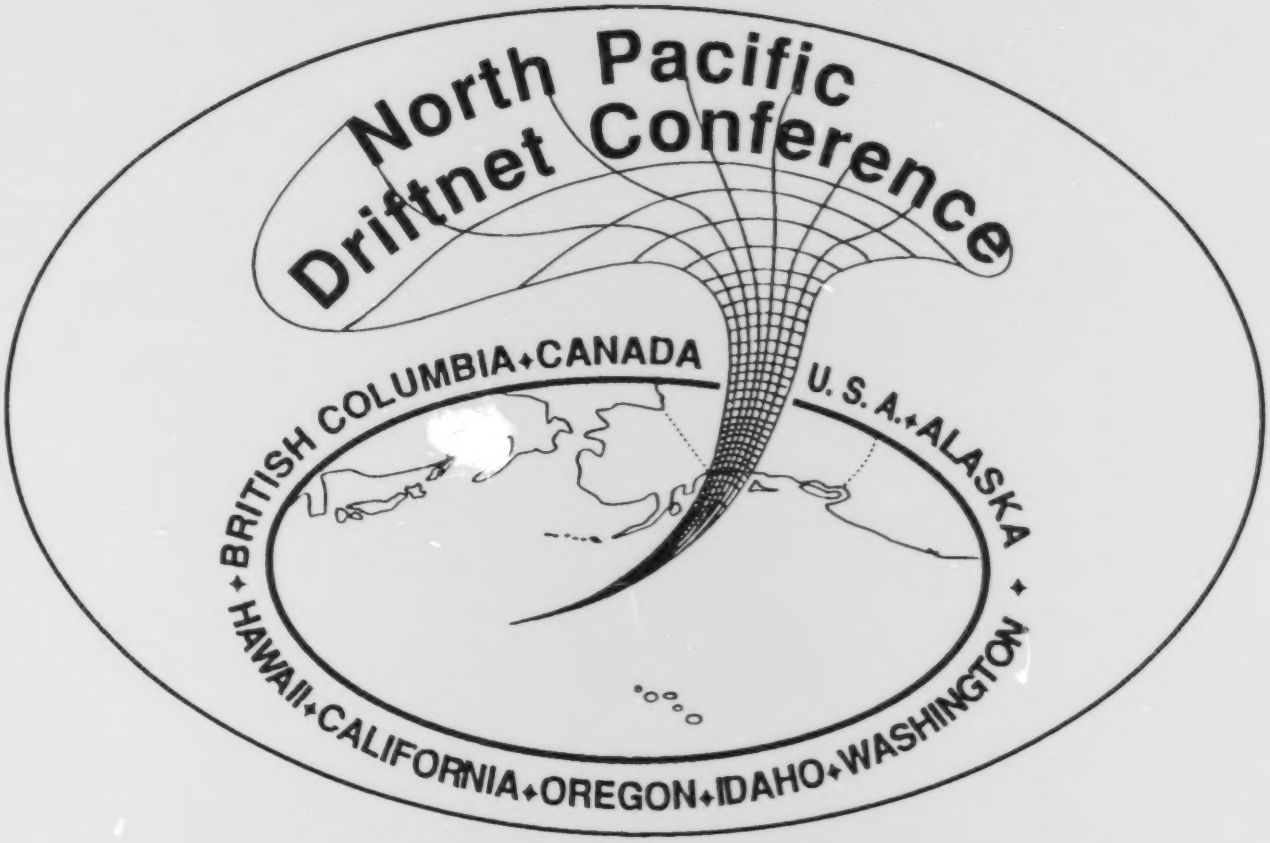

PROCEEDINGS

Volume 1

BC

Ministry of Agriculture and Fisheries
Honourable John L. Savage
Minister

July 17 - 19, 1989
Victoria,
British Columbia
Canada

90-00363/

A MESSAGE FROM THE PREMIER OF BRITISH COLUMBIA

As Premier of British Columbia, I am concerned over the serious economic and environmental impact of driftnetting on the Pacific marine environment, and on our own British Columbia commercial fishery.

In Victoria this summer, the Province of British Columbia co-hosted, with the Federal Government, the first North Pacific Driftnet Conference. We invited senior federal, provincial and state government professionals, marine biologists, fisheries enforcement personnel, industry representatives, diplomats and lawyers to pool their resources of information and expertise. The proceedings and supporting documents of this Conference are the subject of this publication.

The North Pacific Driftnet Conference was successful in combining political will with scientific data to further the search for solutions to the problem of driftnets in the high seas. The information contained within these pages is currently serving as the basis for increased international efforts to curb this fishery, and conserve the international marine resources for all Pacific Rim peoples.

I am awaiting with interest the report of the British Columbia-sponsored observer who spent several weeks this summer aboard a fishing vessel in the Japanese squid fleet. Other observers sponsored by the Canadian and American governments will also be reporting prior to a Heads of Government meeting on driftnets being held in Anchorage, Alaska this fall.

The economic and environmental questions posed by the driftnet fishery in the North Pacific are significant for British Columbians and for all Pacific Rim peoples. I am personally committed to curbing the use of these nets so that the resources of international waters may be conserved and managed.

Your interest tells me that British Columbians will continue to take a well-informed leadership role in preserving our magnificent fisheries and ocean environment for proper, responsible use now and in the future.

Sincerely,

Bill vanderZalm

William N. Vander Zalm
Premier

A MESSAGE FROM
THE HONOURABLE JOHN L. SAVAGE
MINISTRY OF AGRICULTURE AND FISHERIES
PROVINCE OF BRITISH COLUMBIA

As British Columbia's Minister for Agriculture and Fisheries, I bring a strong personal commitment to the driftnet issue and its impact on our province. My family has been farming in the Fraser Delta area for over a century now, and that experience has taught us a lot about caring for the resources of land and water. In this respect, I am like many British Columbians who today derive their living directly from the renewable resources of land, forests and fisheries.

Many British Columbians know from firsthand experience that methods of farming, fishing or forestry which fail to consider the ability of the resource to renew itself, and who pay no attention to conservation or management, will quickly destroy that resource. We see the driftnet fishery in the high seas as being uncontrolled, not only where their primary catch of squid is concerned, but in the by-catches of other fish, sea birds and marine mammals. All of these species form integral parts of the North Pacific food chain.

Much of the immediate responsibility to manage the joint harvest of ocean resources necessarily lies with politicians, diplomats and international legal experts.

But right here in British Columbia, there are responsibilities that we as individuals must exercise to protect our fragile and beautiful marine resources from pollution by garbage, torn netting and plastic debris.

One of the more startling revelations to come out of this Conference is the degree to which we, ourselves, damage our inshore fishery and freshwater lakes by the irresponsible disposal of wastes. If you walk along a B.C. beach, you won't see many abandoned driftnets. But non-biodegradable portions of our own garbage can now be found along all our beaches and shorelines, floating at sea, and trapped in underwater sediments.

I urge all users of marine waters, whether they be commercial or recreational fishermen, pleasure boaters, charter or passenger craft, to use onshore disposal sites for their garbage, chemical waste, damaged trawl and gillnets, sewage and effluent.

. . ./2

I challenge all British Columbians to clean up their own back yards. The maintenance of the long-term healthy ecology of British Columbian waters is no less important than the issue of high seas driftnets.

This challenge is one that can be met by every British Columbian. In so doing we can demonstrate to those nations who strip-mine the Pacific that we, in this province, are serious about sustaining the global marine environment over the long term.

Yours truly,

John L. Savage

John L. Savage
Minister of Agriculture and Fisheries

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SECTION I

BACKGROUNDING THE DRIFTNET ISSUE

HISTORY OF THE PACIFIC DRIFTNET FISHERY

Driftnet fisheries are not a new activity in the North Pacific. As early as the 1930's, fishermen off the North American west coast saw Japanese high seas driftnetters appear off Bristol Bay pursuing Asian-origin salmon.

After World War II, Japanese-directed salmon fisheries expanded dramatically into the North Pacific. That rise in fishing effort led in 1952 to Canada, the United States and Japan entering into the International North Pacific Fisheries Convention (INPFC) to regulate the Japanese driftnet catches of fish stocks native to North America. The INPFC created a demarcation line in the North Pacific Ocean, distinguishing between the North American and Asian-origin salmon migration patterns. But these attempts to identify and control fishing jurisdictions were only partially successful.

In 1978, when the extension of jurisdictions by our countries forced renegotiation of the INPFC, the Japanese fleet moved 500 miles further west.

As salmon quotas were forced down by international treaty, traditional salmon fishermen began to look for alternative fish species to supplement their income. Asians had been taking squid with jigging vessels for years, but now the salmon fishermen found that squid could be taken cheaply and effectively with the same vessels and large mesh nets they had formerly used to trap salmon.

For the past 10 years, a Pacific squid driftnet fishery has been developing which now is valued at $550-$600 million annually. This fishery is conducted chiefly by Japanese, Korean and Taiwanese vessels.

This year (1989) these three nations are deploying nearly 800 vessels, each of which carry driftnets that may extend 50 km from the ship. The nets trap by-catches of salmon, marlin, albacore and skipjack in both the North and South Pacific, as well as many sea birds and marine mammals. The threat to the southern albacore fishery led in June to the nations of the South Pacific Forum banning driftnets from their waters.

Major concerns associated with driftnets include:

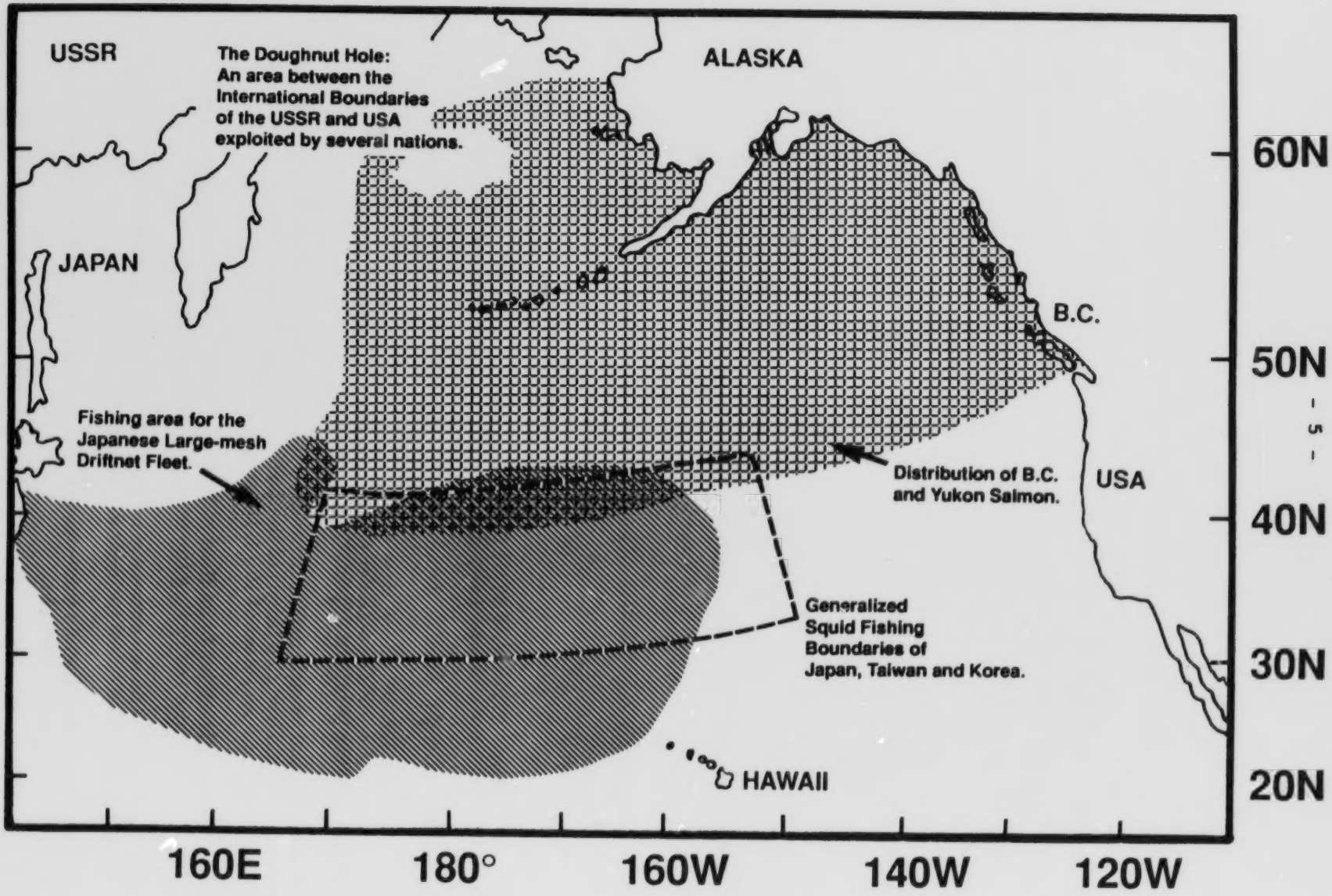
- interception of salmonids as an incidental (or targetted) catch;
- marketing of large amounts of salmon products by non-salmon producing nations and illegal import and country of origin relabelling schemes;
- incidental catch of birds, marine mammals and other species;
- the size of the fishery and the amount of gear deployed;
- effects of lost or discarded nets and the potential of such gear to continue to fish, or to become a hazard to navigation.

Problems with regulation of this fishery begin with obtaining factual information on its operations. Many by-catches of salmonids go unreported in nations where such reporting is not enforced by law. The fishing takes place in vast areas of international waters, where there are no observers to render accurate data.

When a catch of salmon is intercepted by authorities, it is difficult to differentiate salmon of Asian origin from native North American stock.

In British Columbia, concern is not only for the salmon fishery which is a major pillar of the province's economy, but for the whole ocean ecology which is being massively disrupted by this uncontrolled and non-sustainable fishing technology.

Recognizing that solutions to the driftnet problem lie in the international forum, the Government of British Columbia joined with the Government of Canada and the Department of Fisheries and Oceans to co-host the North Pacific Driftnet Conference. This publication includes the proceedings of these meetings, papers presented to the conference, and the objectives, principles, and action plans stemming from this meeting of scientists, administrators, legal experts and diplomats.



"OVERLAP OF OCEAN DISTRIBUTION OF PACIFIC SALMON AND SQUID"

CONVENTION ON SQUID FISHERIES - FACT PAGES

Conducted by Japan, Korea, and Taiwan over the past decade.

Japan's fleet has decreased in size while that of Korea and Taiwan have increased.

Japanese Squid Fleet - No. Vessels		Korea Squid Fleet - No. Vessels	
-		1980	14
1981	534	1981	34
1982	529	1982	60
1983	515	1983	99
1984	505	1984	111
1985	502	1985	98
1986	492	1986	117
1987	478	1987	140
1988	463	1988	147

Taiwanese Squid Fleet - No. Vessels	
1983	129
1984	148
1985	124
1986	114
1987	97
1988	166

Japanese vessels engaged in squid driftnet fishing are between 50 and 500 gross registered tons and cannot legally fish west of 170 E nor east of 145 W longitude. A moving northern boundary was implemented in 1981 which limits fishing operations below 46 N latitude. Smaller Japanese squid jigging vessels operate closer to Japan.

Japan imposes limited entry, time and area closures, prohibits incidental catch and retention of salmonids or transfer of catch at sea and inspects squid vessel cargos at specified landing points in Japan.

Taiwanese squid vessels utilize driftnets with mesh sizes between 80-102 mm for harvesting squid and two thirds of the fleet reportedly fished in the area between 40 and 44 N latitude and west of 170 E longitude in 1986.

Taiwan issued directives to its fleet in 1983 and 1984 banning the harvest of salmon on the high seas and restricting the export of salmon from Taiwan.

Korean authorities do not currently restrict the high seas driftnet fleet other than to instruct the fleet to discard incidentally caught salmonids.

Squid driftnets can be 30-50 km in length and are usually set in the late afternoon and recovered during the night.

DRIFTNET FISHING FOR MARLIN AND OTHER SPECIES - JAPAN

The fishery developed off Japan in the late 1970's using large mesh (>150 mm) gillnets.

Targets on marlin, skipjack, albacore and other tunas.

30 to 40 vessels operated off New Zealand in 1988.

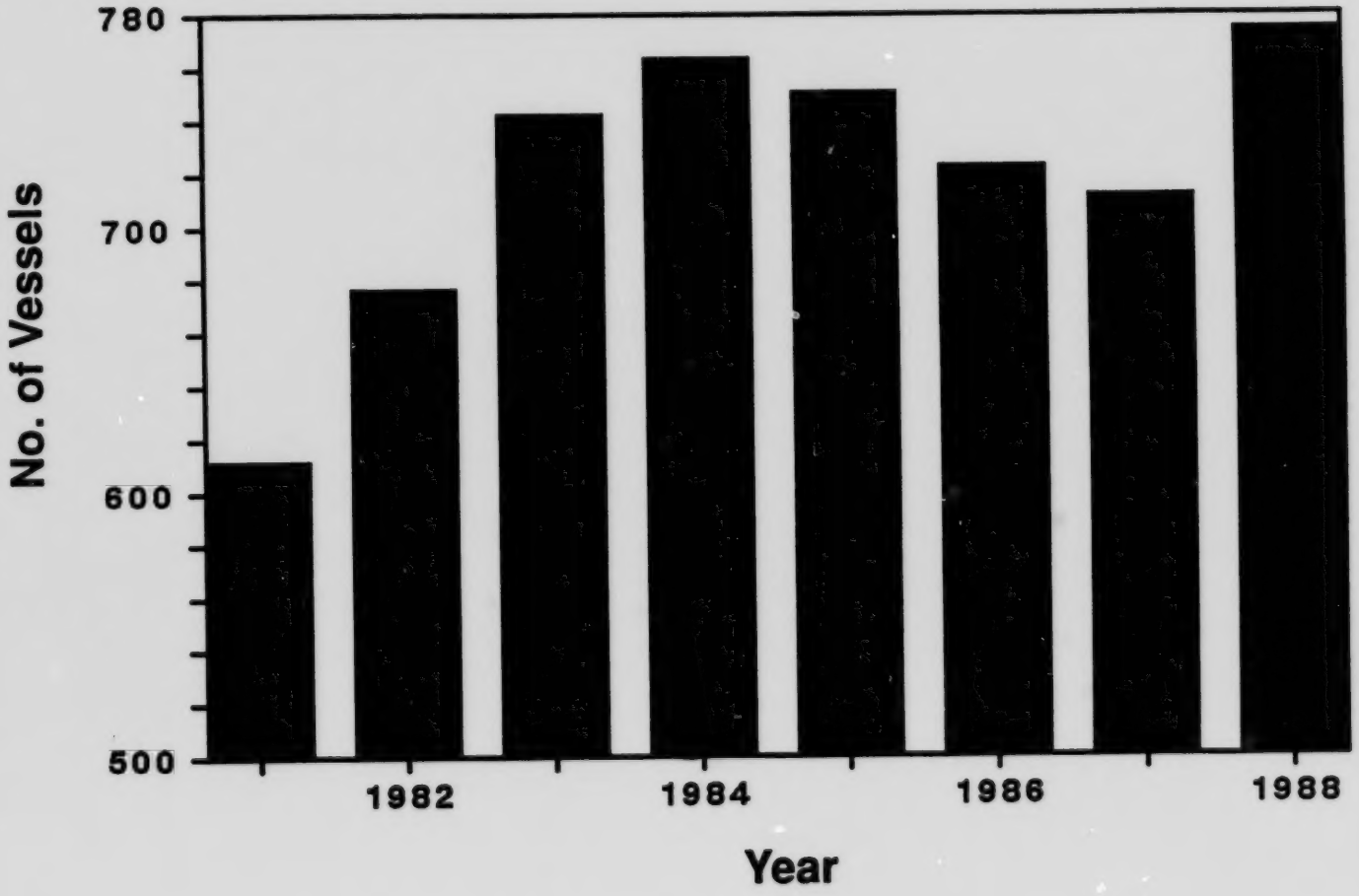
Main fishing area is the Northern Pacific and there is some uncertainty about the number of vessels involved - 474 vessels greater than 10 gross registered tons could fish, most in the 60-100 ton category.

The fishery is seasonal and these vessels often engage in other fisheries, i.e. squid, and therefore may be included in the preceding lists of vessels.

The net length is restricted to 12 km/vessel and a vessel cannot carry more than 30 km of net aboard; use of mesh less than 150 mm is prohibited and salmon are not to be retained; time and area restrictions are enforced.

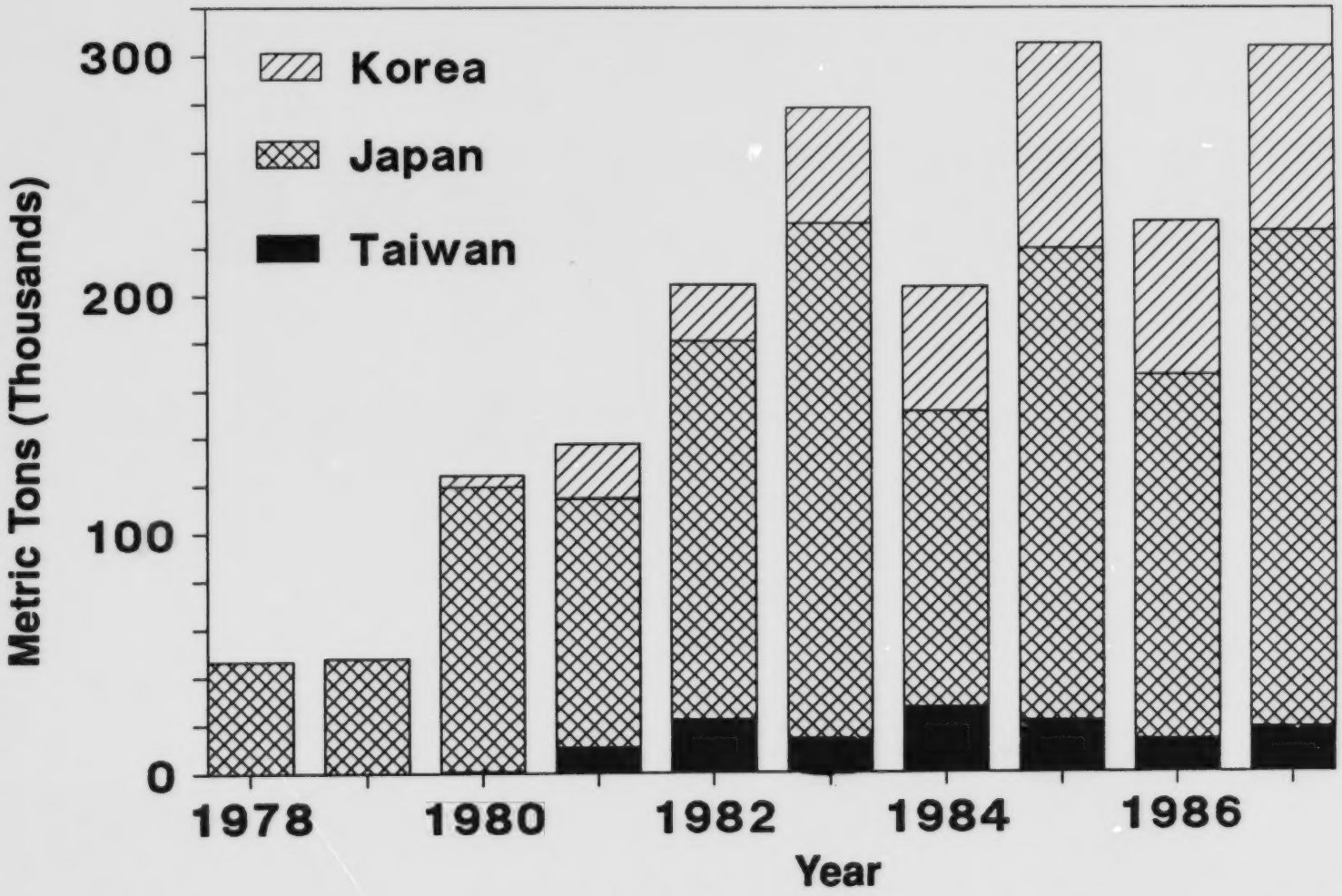
North Pacific Squid Fisheries

Fishing Effort



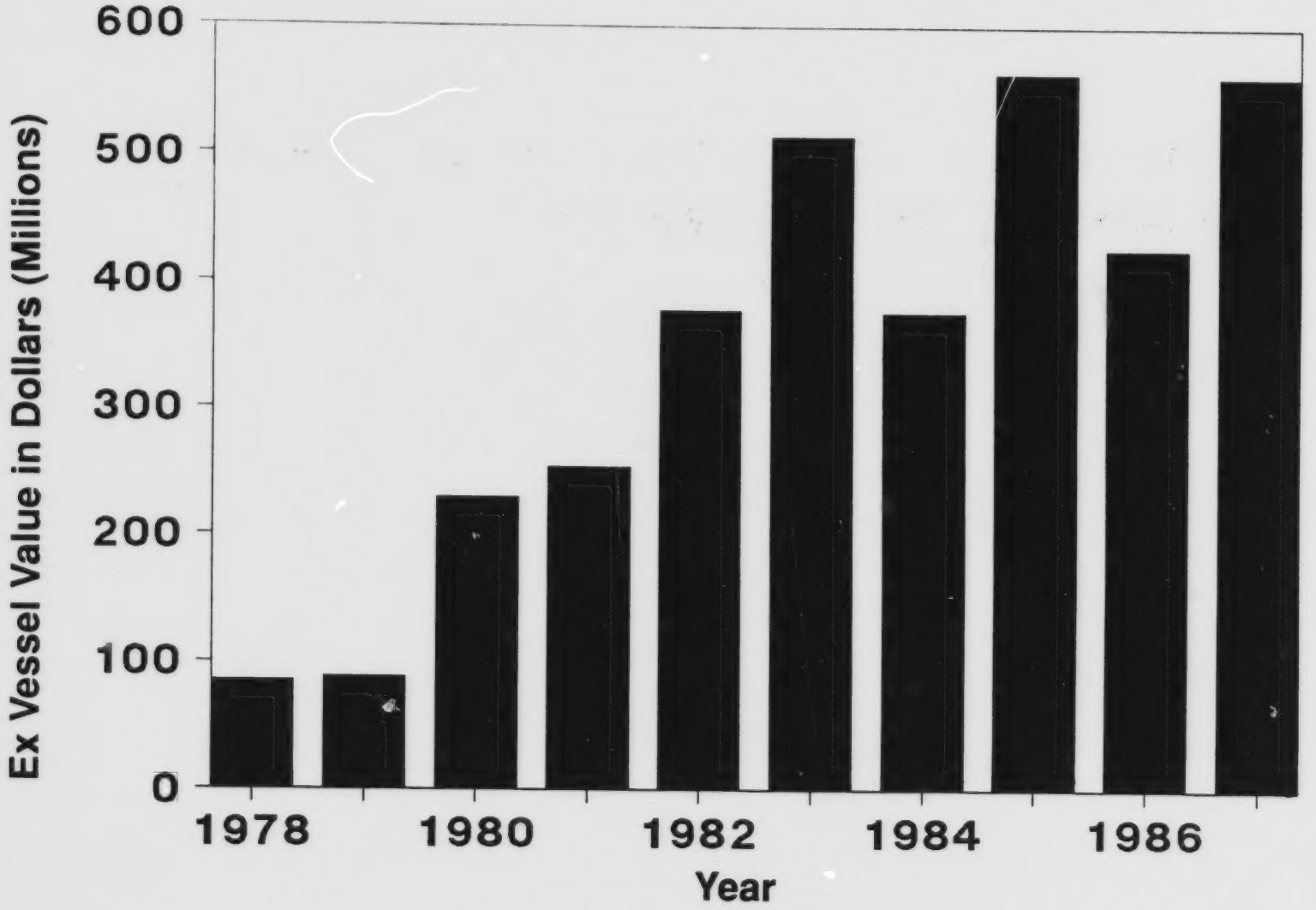
Courtesy of National Marine Fisheries Service, Juneau, Alaska

Catch of Squid Driftnet Fisheries



Courtesy of National Marine Fisheries Service, Juneau, Alaska

Value of Catch by Squid Driftnet Fisheries



Courtesy of National Marine Fisheries Service,
Juneau, Alaska

Japanese Squid Fishery

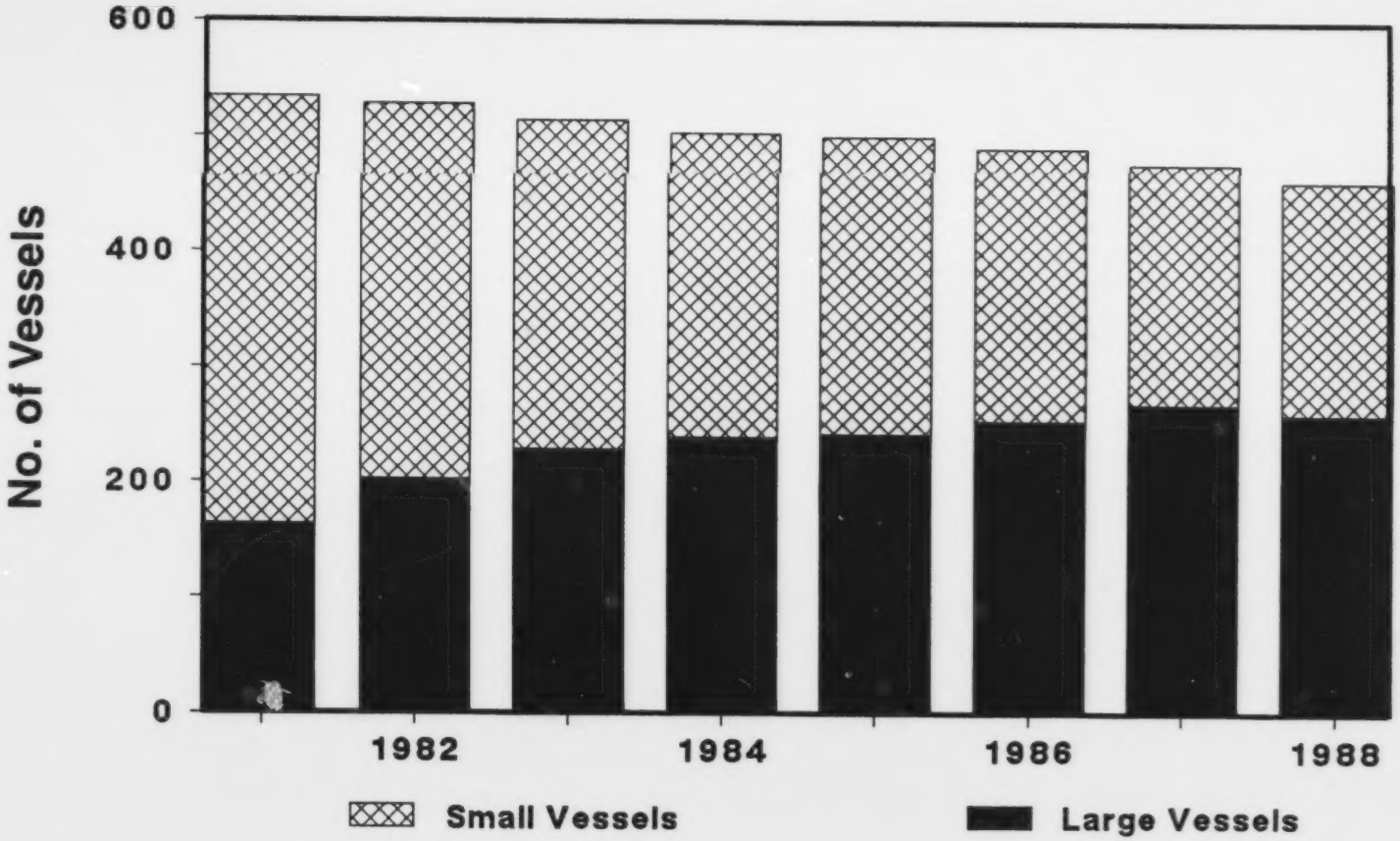
Regulations Enacted in 1981

- **Mesh Sizes: 100 - 135 mm**
- **Limited Entry System**
- **Two permits: 4-month and 7-month**
- **Non-retention of Salmonids**
- **Offloading Restrictions**
- **Special Ident. Coloring and Display**

Courtesy of National Marine Fisheries Service,
Juneau, Alaska

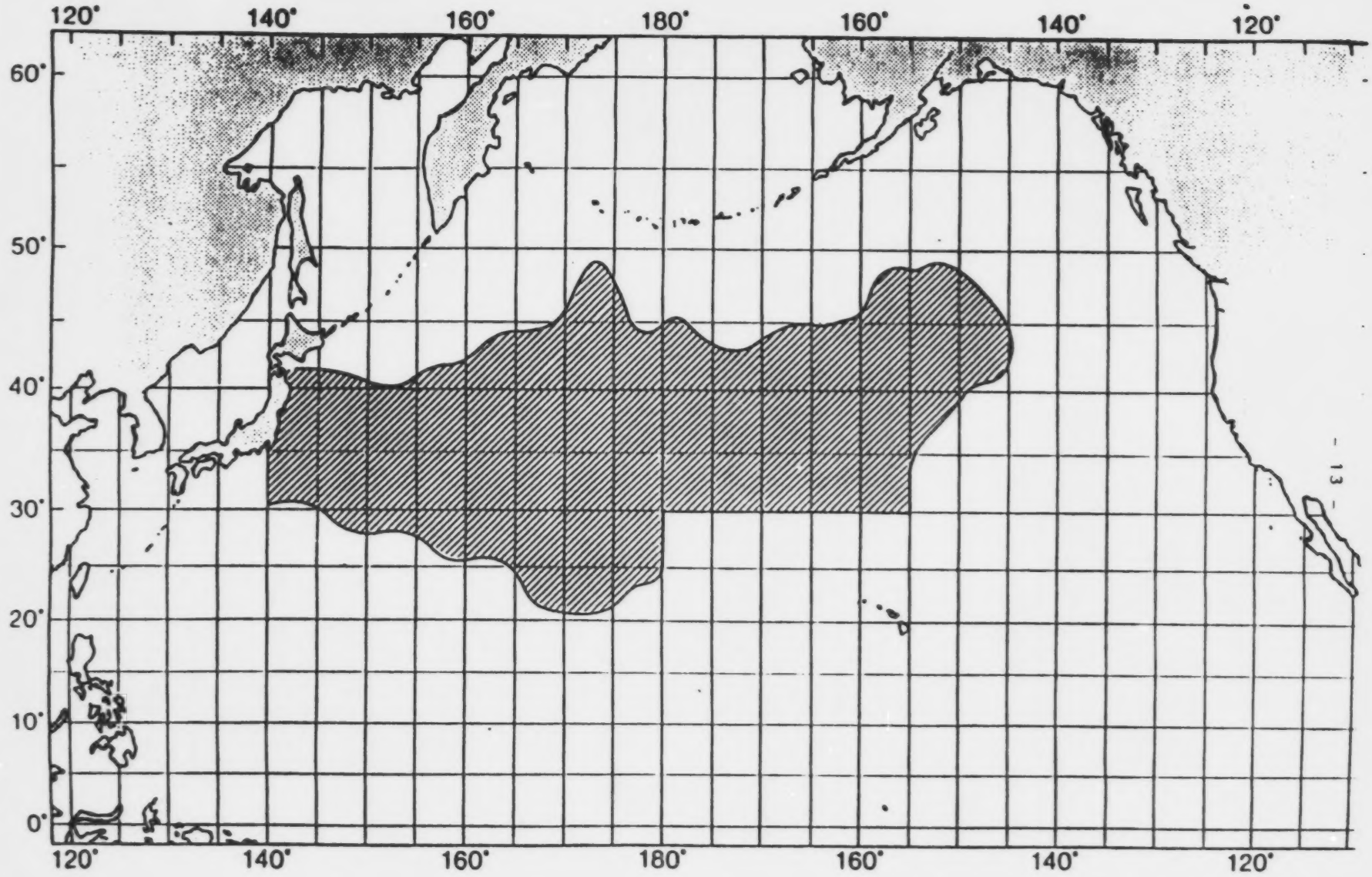
Japanese Squid Fishery

Fishing Effort



Courtesy of National Marine Fisheries Service, Juneau, Alaska

Figure 4-2.--Fishing area for the Japanese large-mesh driftnet fleet in the North Pacific Ocean, 1981.



JAPANESE SQUID DRIFTNET FISHERY
SUMMARY OF TOKYO MEETING BETWEEN JAPAN, CANADA, USA
APRIL 27 - MAY 2, 1989

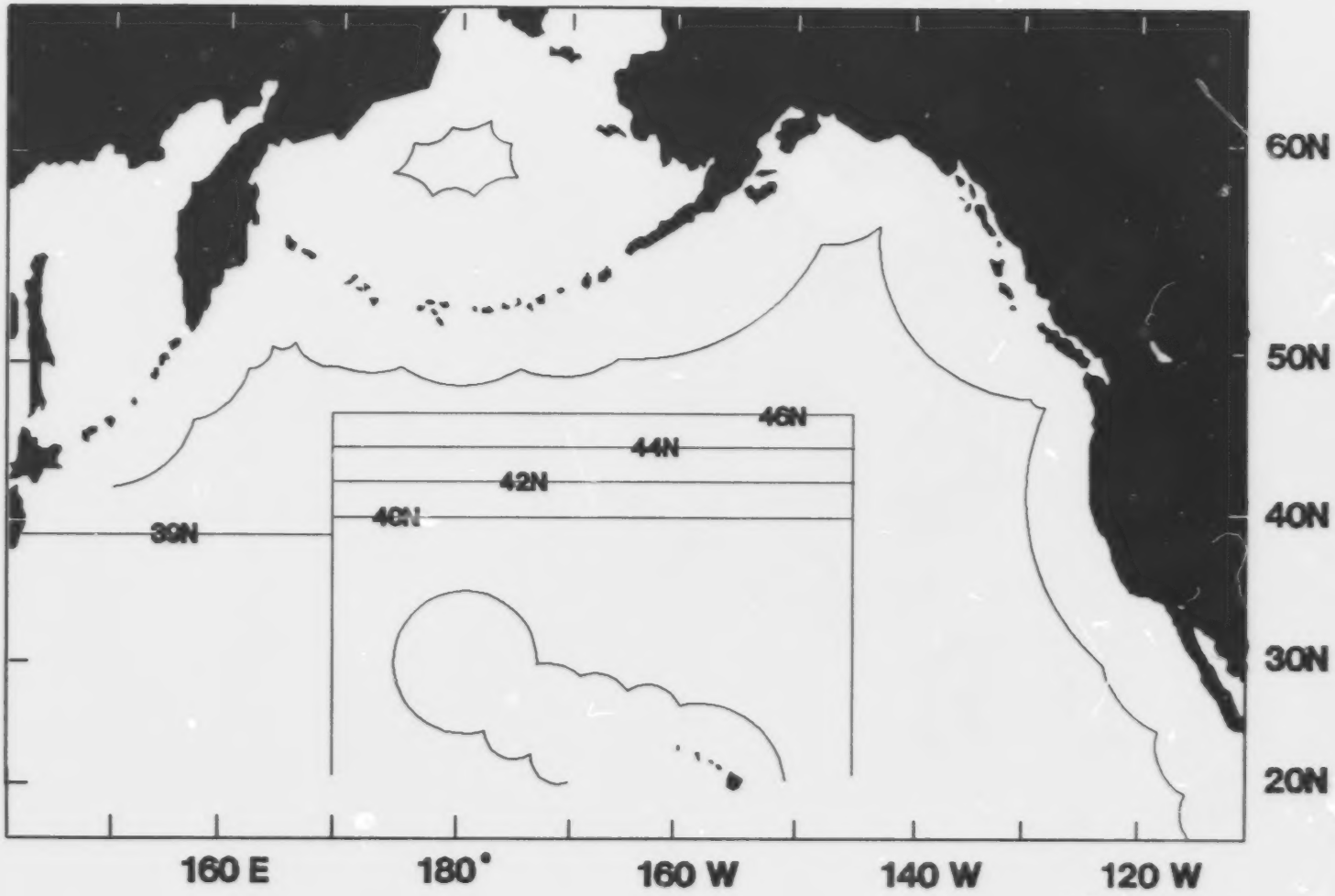
Objective - Canada and the USA sought arrangements/controls for the Japanese squid driftnet fishery, particularly in the light of the 1988 Japanese decision to alter the July/August northern boundary.

Background - No treaty or other arrangement covers the squid fishery and it is not regulated by INPFC. The fishery takes place in international waters and all regulations governing it have been put in place by Japan. Japan set the northern boundary limit for squid at 46 degrees north in 1981. In 1988, despite strong objections from Canada and the USA, Japan announced they would be varying the July and August position of the boundary with the 46 degree limit (see attached diagram). Canadian and US opposition to this shift has been vocal and persistent ever since, including repetition of this position at the recent Tokyo meeting.

Outcome of the Meeting - Japan, in the form of letters to Canada and the USA (not a Treaty or Agreement) has undertaken to do the following program for the 1989 fishing season (described as voluntary measures on the part of the Japan Squid Driftnet Fishery Association):

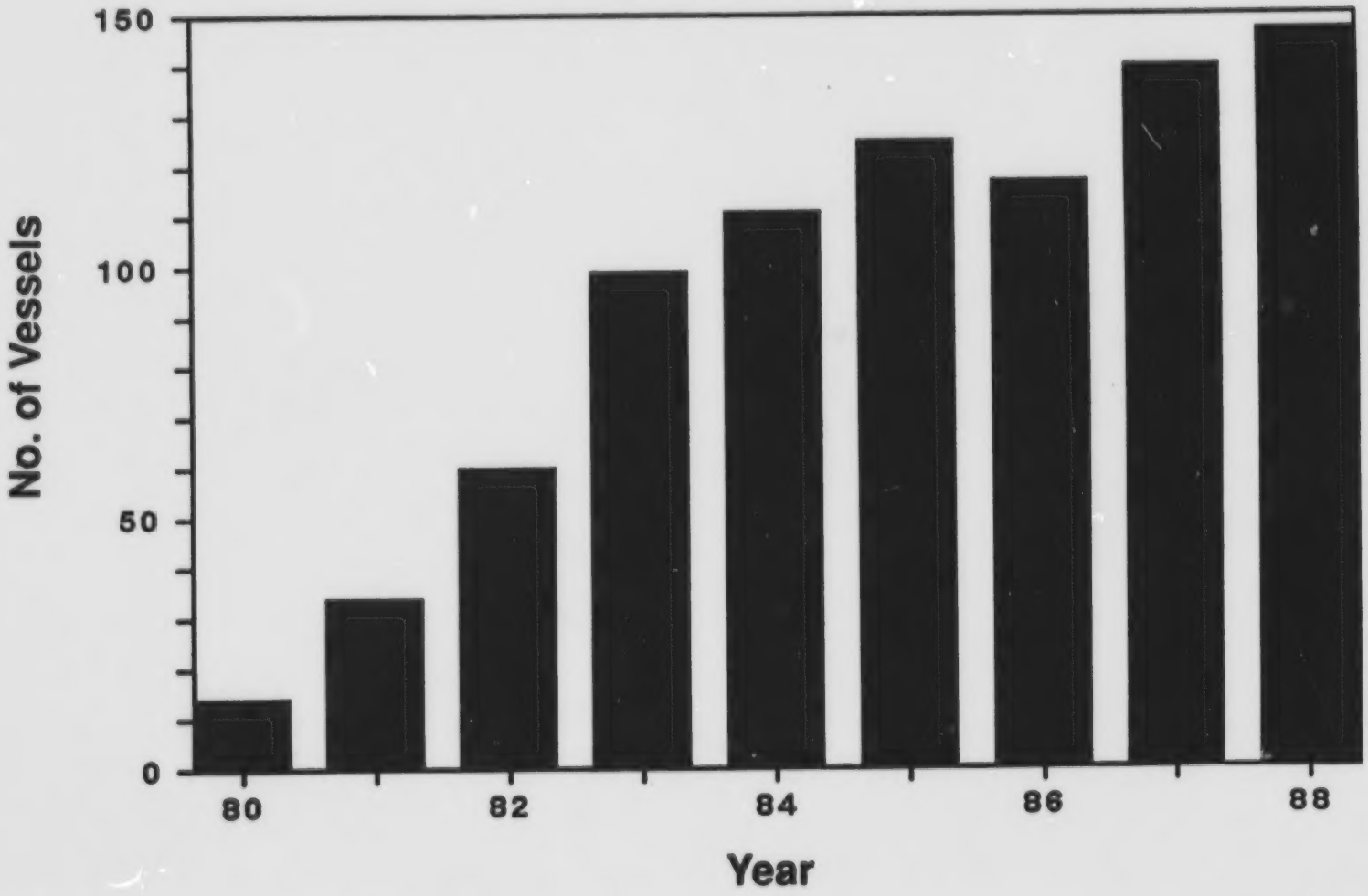
	Japan	Canada	USA	Vessels
Observers:				
June to December	10	0	5	10
July/Aug. - N. Boundary	22	5	4	22
Totals	32	5	9	32

- Observers will collect information on catch of target and non-target species (squid, salmonids, marine mammals, birds and other species).
- Observers will collect biological samples (scales, other information) from incidentally caught salmonids (Canadian initiative).
- Observers will record information on the fishing activities of other nations (Korea, Taiwan) and this information will be shared by the Parties (Canadian initiative).
- Observations, data recording, etc. will be standardized, using scientifically sound methods.
- Observer coverage of 20% of the vessels which plan to fish in the vicinity of the northern boundary area is anticipated. Canadian observers will be concentrated in that area.


60N
50N
40N
30N
20N
46N
44N
42N
40N
38N
160 E
180°
160 W
140 W
120 W

Republic of South Korea Squid Fishery

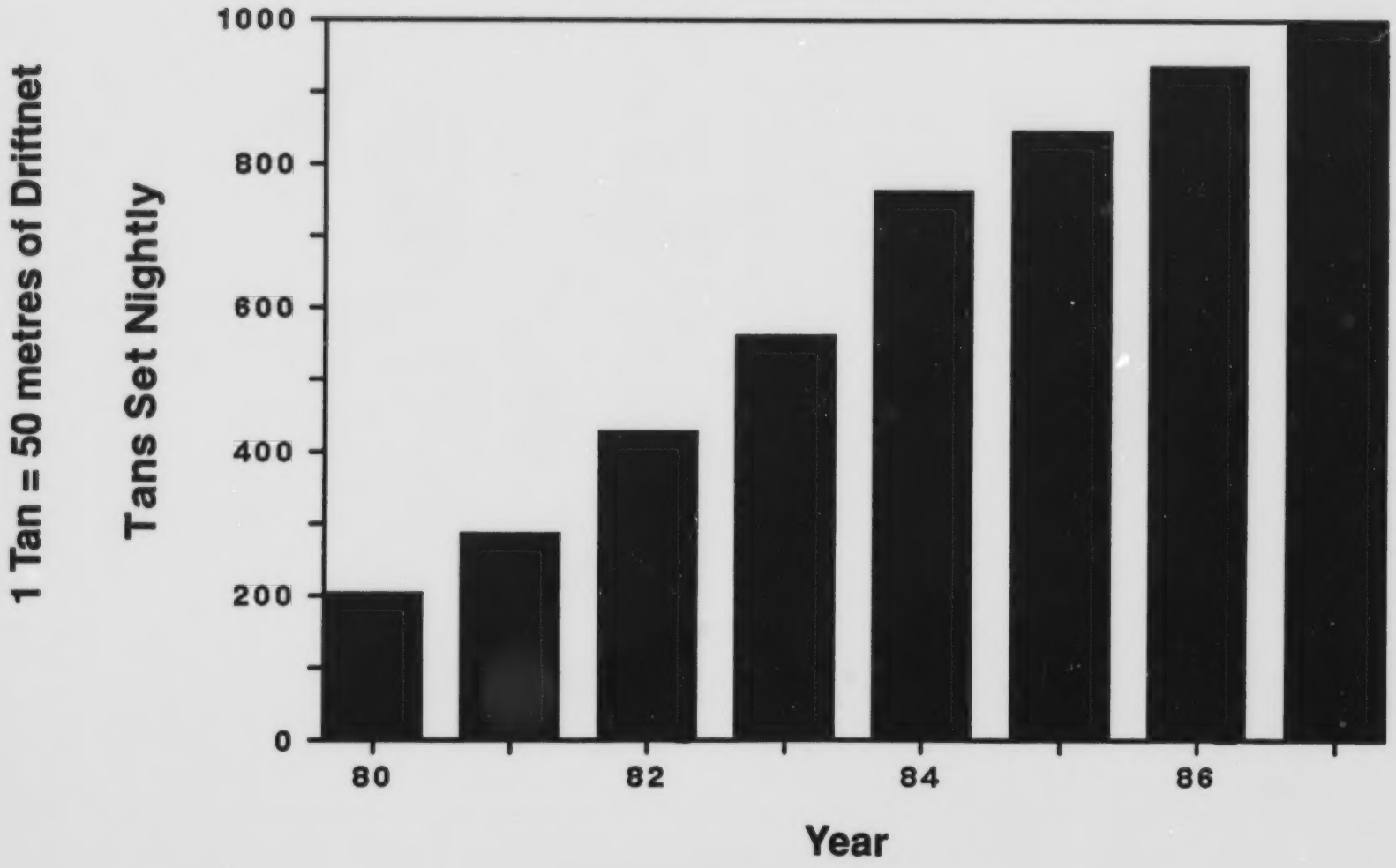
Fishing Effort



Courtesy of National Marine Fisheries Service, Juneau, Alaska

Republic of South Korea Squid Fishery

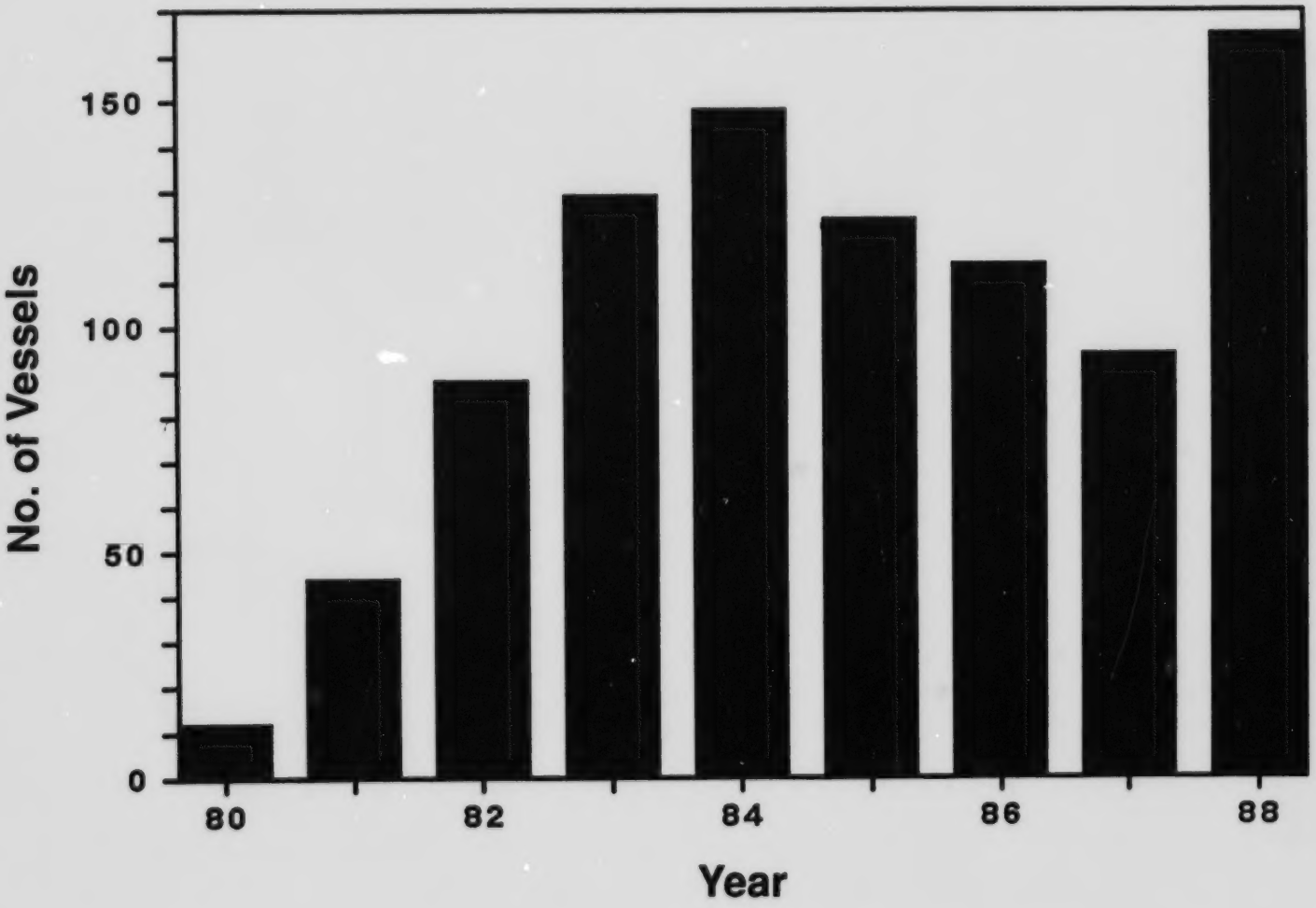
Gillnets Deployed/Vessel



Courtesy of National Marine Fisheries Service, Juneau, Alaska

Taiwan Squid Fishery

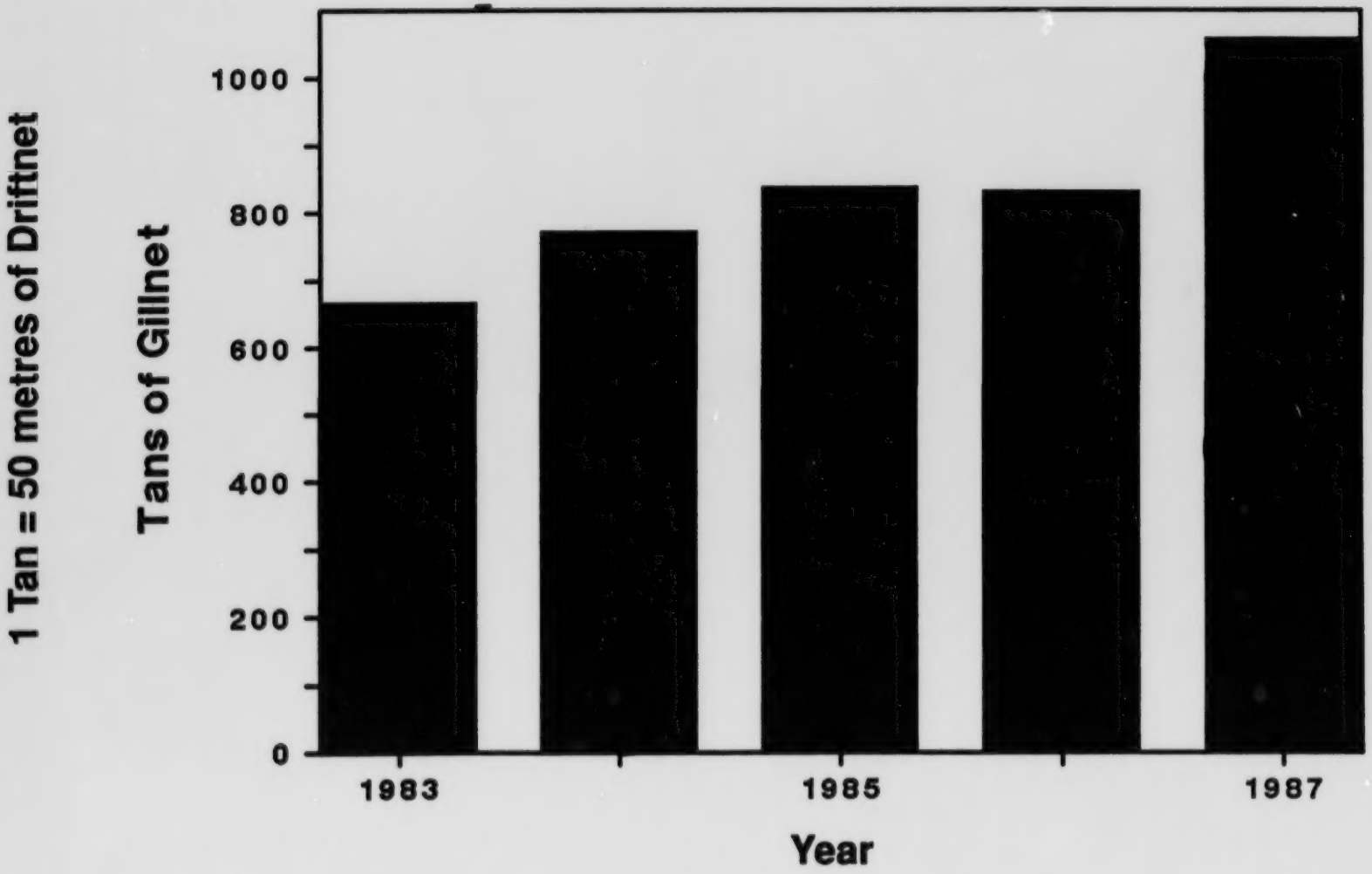
Fishing Effort



Courtesy of National Marine Fisheries Service, Juneau, Alaska

Taiwan Squid Fishery

Gillnets Loaded/Vessel



Courtesy of National Marine Fisheries Service, Juneau, Alaska

JAPANESE SALMON FISHERY: FACT PAGES

Governed by Japan-USSR and Japan, Canada, USA treaty (INPFC) arrangements.

Targets on Asian-origin salmon originating in Japan and the USSR (Japan pays a fee to USSR for fish quota).

Consists of two fisheries:
- mothership driftnet fishery
- landbased driftnet fishery.

Boundaries of fishing areas, season, gear restrictions and catch quotas established.

Eastern boundary of the salmon fishery has been moved back towards Japan through efforts of Canada and the USA in INPFC negotiations.

Through these negotiations Japan will cease fishing in the international waters of the Bering Sea by 1994.

Japan was denied access to the USA zone in 1988 by legal action in Alaska courts which prevented issuance of a permit for incidental catch of marine mammals. Issuance of the permit in 1989 looks unlikely.

Japan has sought alternate fishing areas to replace those lost through the permit problem but has been refused by Canada and the USA. Japan has also been seeking to convert 86 mothership catcher vessels to landbased operations.

Mothership Fishery Statistics:

Year	No. Motherships	No. Catcher Vessels	Salmon Catch (million fish)	Time
1973-77	10	330	21.4	May 15 - Aug. 10
1978-86	4	172	6.9-9.6	
1987	3	129	3.1	June - July
1988	1	43		

Landbased Fishery Statistics:

Year	No. Coastal Vessels	No. High Seas Vessels	Catch	Time
1973-77	1400	330	30.2	April 30 - Aug. 10
1978-86	678	209	12.4-16.5	May - Mid-July
1987-88	678	157	<8.0	June - late June

Gear Utilized: Monofilament surface gillnet, limit of 15 km/vessel, depth 8-10 m, mesh size 121-130 mm in mothership fishery, 110-117 mm in landbased fishery.

Soviet Quotas in INPFC areas:

Year	Millions of Fish
1982	34.5
1983	36.4
1984	32.6
1985	29.9
1986	19.3
1987	19.2
1988	14.4
1989	12.4

COMMUNIQUÉ

NEWS RELEASE

FOR IMMEDIATE RELEASE

NR-PR-89-13

May 4, 1989

CANADA OPPOSES UNCONTROLLED USE OF DRIFTNETS

VANCOUVER ... Fisheries and Oceans Minister Tom Siddon announced today that agreement has been reached among Canada, the United States and Japan on an observer program in the 1989 Japanese squid driftnet fishery in the North Pacific Ocean.

"I am extremely concerned about the use of driftnets by foreign fishing fleets in the North Pacific," said Mr. Siddon. "I believe the driftnets result in the interception of large quantities of Canadian-origin salmon and destroy vast numbers of marine mammals and other marine life."

This unprecedented observer program will quantify the problem and give direction on solutions.

After an April 28 to May 2 meeting in Tokyo among the three countries, Japan agreed to place observers on 32 Japanese squid driftnet fishing vessels for the 1989 fishing season. Fourteen of these vessels will also carry North American observers, including five Canadians.

"In addition to the observer program, I have instructed my department to continue its research work in the northeastern boundary of the Japanese squid driftnet fishery for the 1989 fishing season," said Mr. Siddon. "Canada is also placing a Canadian scientific/observer on board a Japanese research vessel in the same area."

"International cooperation, such as the agreement on the observer program, is an important step in Canada's concerted effort to control the use of high seas driftnets," said Mr. Siddon.

"Furthermore, we are looking forward to co-operating with the B.C. government in raising the awareness of the impact which high seas driftnets have on Pacific salmon," he said.

"Canada has followed a systematic plan to raise the profile of high seas driftnet fishing and has been supported in its efforts by the Canadian fishing industry," he continued.

"As I said at the International North Pacific Fisheries Commission (INPFC) meeting in November 1987 in Vancouver, there must be a political will on the part of Pacific Rim nations to place a damper on the scope of the high seas driftnet fishery. This agreement on the observer program signals a positive step in that direction."

"Subsequently, at the November 1988 annual meeting of the INPFC in Tokyo, we took the initiative and gained U.S. and Japanese support for an action plan to deal with the problem," said Mr. Siddon. The plan has already resulted in successful enforcement efforts against sales of pirated salmon in North America. It has also provided information exchange and collaboration between government and industry to address the problem.

The Canadian government has implemented regulations prohibiting the importation of salmon taken from the INPFC Convention area by fishing vessels other than from Canada, the U.S. and Japan.

Furthermore, Canada and the U.S. have negotiated an agreement with Japan in the INPFC to phase out the Japanese driftnet salmon fishery in the Bering Sea by 1994.

"Representations have also been made in Singapore and Thailand to raise Canadian concerns about the purchase of illegally caught salmon from Taiwanese vessels by the processing industries of those countries," continued Mr. Siddon.

"Meanwhile, Canada is seeking to have Japan, Taiwan and Korea put more stringent squid fleet regulations in place," said Mr. Siddon. Canada itself, after a brief experimental driftnet fishery for squid in 1986 and 1987 banned the practice in Canadian waters.

"Finally, Canada is looking into the legal options that are available to it in order to place more control on the high seas squid driftnet fishery," said Mr. Siddon.

- 30 -

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BACKGROUNDER

FICHE d'INFORMATION

May 4, 1989

BACKGROUNDER

The following is a list of actions taken by Canada between 1982 and 1989 in dealing with the use of high seas driftnets in the North Pacific and the interception of North American-origin salmonids by Asian fleets: (This is in addition to the information in the attached news release.)

- In 1982 Canada was the first country to bring to the attention of members of the International North Pacific Fisheries Commission (Canada, Japan and the U.S.) the serious situation resulting from the use of driftnets.

- In 1986 Canada became the first country to carry out scientific studies on the effects of the squid driftnet fishery on the interception of North American-origin salmonids and other marine mammals through a research cruise on the M.V. Ricker.

- At the 1986 annual INPFC meeting Canada was successful in having the driftnet issue placed on the regular agenda of the Standing Committee on Biology and Research. In addition, Canada participates in a sub-committee established to deal with the by-catch in driftnet operations and to investigate methods to reduce incidental by-catch in fishing gear.

- In 1987 and 1988 the Canadian research vessel M.V. Ricker carried out additional research cruises in the area of the high seas squid driftnet fishery studying salmon distribution, continent of origin and marine debris.

- In 1986 and 1987 Canadian scientists were placed aboard Japanese research vessels in order to monitor salmonid catches in the Japanese landbased fishery of the western North Pacific.

- In 1986 Canada instituted a driftnet survey program which monitors sightings of driftnet debris entering the Canadian Pacific 200-mile zone.

- In 1987 and 1988 Canada hosted representatives of five countries -- China, Japan, the U.S.S.R., the U.S.A. and Canada -- to discuss establishment of a new international scientific organization for the North Pacific Ocean and Bering Sea. Its objectives would be to promote the cooperative investigation of marine biology, oceanography and pollution in the North Pacific Ocean and Bering Sea.

- In 1987 Canadian observers participated in an observer program in the Japanese salmon driftnet fishery in the U.S. Exclusive Economic Zone.

- In 1987 Canada sought co-operation on driftnets and the interception of salmonids in the squid driftnet fishery with Taiwanese fishing industry representatives.

- In 1987 a moratorium on Canada's experimental high seas squid driftnet fishery on the Pacific coast was announced at the annual meeting of the INPFC by Minister Siddon.

- In 1987 Canadian government oceanographers began an ocean modelling project to identify driftnet movement.

- In 1989 Canada participated in a marine debris conference in Hawaii where scientific information was exchanged on the impact of marine debris, including driftnets.

Province of British Columbia
Ministry of Agriculture and Fisheries

NEWS RELEASE

FOR IMMEDIATE RELEASE May 30/89

Province Takes Action Against Driftnet Fishery

VICTORIA, B.C. -- Premier Bill Vander Zalm and John Savage, Minister of Agriculture and Fisheries, announced today that British Columbia has invited the Federal Governments of Canada and the United States and three American States to participate in an international conference in order to agree upon an approach to reducing the impact of driftnet fisheries in the North Pacific.

Vander Zalm said, "This step is necessary to address this very destructive fishery that has such an obvious impact on our resources. British Columbia is committed to taking a leadership role on this matter to demonstrate our commitment to the management and preservation of our marine environment."

The provincial government will host the Canada-U.S. Conference this summer.

"The purpose of the meeting is to develop an international strategy to address concerns regarding the North Pacific driftnet fishery," said Vander Zalm.

Participants invited to attend include:

- Government of Canada Department of Fisheries and Oceans; Department of External Affairs;
- United States State Department; United States Fisheries and Marine Service; United States Department of Trade and Commerce; and
- British Columbia, Alaska, Washington and Oregon Departments of Fisheries.

"It is my intention that this inaugural meeting will be followed up by a meeting between myself and the Governors of Alaska, Washington and Oregon in September and a further one with representatives from Japan, Taiwan, Korea and Thailand," Vander Zalm said.

(more)

"We hope to be able to provide the environment to fully assess the issue and take action for a co-operative solution," said the Premier.

In the meantime, Savage announced, Archipelago Marine of Victoria, British Columbia, has been contracted by the federal and provincial governments to train and place observers with the Japanese squid driftnet fishery from June to August of this year.

"The Province is contributing $35,000 towards the federal program which will place five observers on Japanese fishing vessels to gather data regarding the squid driftnet fishery," said Savage.

The five observers, all from British Columbia, have undergone extensive training in Seattle. Two observers are presently on vessels headed for the fishing area, a third left yesterday, and the remaining two will follow in the immediate future.

They are Serge Villeneuve and Dave Freemantle of Victoria, Alan Doby of Sidney, Erin Lang of White Rock, and John Yearsley of Hornby Island.

The reports from the observers will be processed in accordance with an agreement signed by Canada and Japan, and presented to the International North Pacific Fisheries Commission (INPFC). A final report is expected in December.

- 30 -

Contact:
Jim Anderson
Director
Aquaculture & Commercial Fisheries
356-1608

89-7

Canada | British Columbia

News Release/Communiqué

FOR IMMEDIATE RELEASE July 13/89

Canada-U.S. Conference on Driftnet Fishery in North Pacific

VICTORIA, B.C. -- An international conference which will address the issue of driftnet fishing in the North Pacific is scheduled for Victoria, B.C. July 17-19, 1989, announced John Savage, British Columbia Minister of Agriculture and Fisheries, and Federal Fisheries and Oceans Minister Tom Siddon.

The conference will bring together senior government officials from the Pacific Northwest States, the Province of British Columbia, and the U.S. and Canadian Federal governments. Delegates include representatives from the Canadian Federal Departments of Fisheries and Oceans and External Affairs, the U.S. Federal State Department and Department of Commerce, the States of Alaska, Washington, Oregon, Idaho, and California, and the Province of British Columbia. Representation is expected from the Forum Fisheries Agency from the South Pacific where similar driftnet operations are conducted.

Japanese, Taiwanese and South Korean driftnet fishing vessels operating in the Pacific are thought to be responsible for the interception of large numbers of salmon, seabirds and marine mammals. It is unclear to what extent the salmon are of North American origin.

"The major focus of this conference is of critical concern to Canada and the United States. There is increasing concern by the public and by all levels of government that the high seas driftnet fishery may be causing serious damage to the marine environment," said Siddon.

"Delegates will review factual information regarding the nature and impact of high seas driftnet fishing and discuss ways of obtaining additional data. Diplomatic, legal and economic initiatives will also be reviewed," said Savage.

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MEDIA OPPORTUNITIES

1) Premier Bill Vander Zalm, Honourable Tom Siddon, and Honourable John Savage will welcome the delegates at a reception Monday, July 17, 1989, in the Panorama Lounge, Dunsmuir Lodge, 1515 McTavish Road, Sidney. Media are invited to attend while speeches are delivered, approximately 8:00 p.m.-8:30 p.m., July 17, 1989;

2) Honourable Tom Siddon will address delegates prior to a luncheon, 12:00 noon-12:30 p.m., July 18, 1989, Panorama Lounge, Dunsmuir Lodge, Sidney;

3) Honourable John Savage will host a news conference 12:00 noon, July 19, 1989, Peninsula Lounge, Dunsmuir Lodge, 1515 McTavish Road, Sidney.

Room 253, Dunsmuir Lodge will be available for use by the media.

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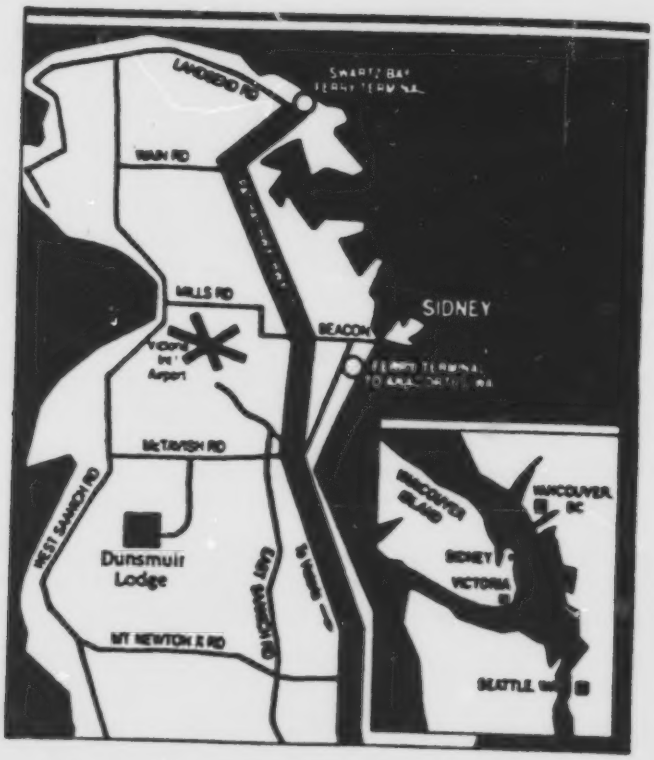

MINISTERIAL STATEMENT TO THE BRITISH COLUMBIA LEGISLATURE
July 13, 1989

CANADA-U.S. CONFERENCE
ON DRIFTNET FISHERY IN NORTH PACIFIC

- Mr. Chairman/Speaker, Honourable Members:
  I am pleased to announce that the Province of British Columbia will be co-hosting an International Conference on Driftnet Fishing in the North Pacific next week, in Victoria.

- The conference will bring together senior government officials from the Pacific Northwest States, the Province of British Columbia, and the U.S. and Canadian Federal governments. Delegates include representatives from the Canadian federal Departments of Fisheries and Oceans and External Affairs, the U.S. federal Department of Commerce, the States of Alaska, Washington, Oregon, Idaho and California, and the Province of British Columbia. Representation is expected from the Foreign Fisheries Agency from the South Pacific where similar driftnet operations are conducted.

- Large fleets of up to 1,500 Asian vessels are engaging in a potentially destructive driftnet fishery in the North Pacific.

- These fleets are ostensibly pursuing red squid fishery. But increasing evidence is being brought forward to show that driftnets are taking large catches of juvenile salmon on the high seas, including North American enhanced salmon stocks.

- These fleets are engaging in the so-called "driftnet fishery". Every vessel puts out 10-30 linear miles of light transparent net. Any fish or mammal that hits the net becomes entangled and dies. The net is indiscriminate: it traps squid, salmon, seabirds, whales from large grey to small right whales, dolphins and porpoises. The nets are set at night and retrieved the next morning. If lost or discarded, the net moves through the sea capturing everything in its path, hence the "ghost fishery".

- This international forum will afford a timely scrutiny of this insidious fishery which has such an obvious impact on our environment and marine resources.

- It is the first step in the development of an international strategy to curb this growing fishery that threatens our salmon resources and ocean ecosystems.

- I recently announced that the Province contributed $35,000 towards the federal program which has placed five observers on Japanese fishing vessels to gather data regarding the squid driftnet fishery this summer.

- The five observers are Serge Villeneuve and Dave Freemantle of Victoria, Alan Doly of Sidney, Aaron Lang of White Rock and John Yearsley of Hornby Island.

- I would like to take this opportunity to wish them every success on this very important mission.

- The reports from the observers will be processed in accordance with an agreement signed by Canada and Japan, and presented to the International North Pacific Fisheries Commission.

- The Province of British Columbia recently participated as an observer at the first meeting on the South Pacific Albacore Driftnet Fishery.

- In the South Pacific, driftnet fishing of tuna is a critical issue. Major concerns have arisen because of a dramatic increase in the size of the driftnet fleets of Korea, Japan and Taiwan and the estimated catch.

- Marshall McLuhan coined the phrase, "global village". What affects the South Pacific also affects us in the North. Discussions such as this will contribute to the international efforts to protect resources beyond the limits of national jurisdiction.

- This demonstrates our commitment to all resources in British Columbia, to our environment, to the future of our economy, and we will not stand idly by and watch the destruction of a fishery that belongs to the people of British Columbia or tolerate the unnecessary pillaging of the marine mammal and bird populations of the North Pacific.

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SECTION II

THE NORTH PACIFIC DRIFTNET CONFERENCE
VICTORIA, B.C.

NORTH PACIFIC DRIFTNET CONFERENCE
JULY 17 - 19, 1989

Dunsmuir Lodge, Victoria, British Columbia

The purpose of this conference was to bring together the governments of concerned jurisdictions to consider the following objectives:

- To assemble factual information available on the nature and impact of the North Pacific Driftnet Fisheries and, in particular, to identify any lack of information and the means of generating required data.

- To identify technical, legal, administrative and political mechanisms available to address the issue.

- To develop federal/provincial/state and joint international approaches to the issues.

The Victoria conference was the first of a proposed three-phase program to develop international approaches to deal with this situation. The three phases being considered include:

o Firstly, a meeting of senior government officials from the jurisdictions affected by this problem, to compile the information available and develop possible strategies and recommendations;

o Secondly, a meeting of the Premier of British Columbia, Governors of Alaska, California, Hawaii, Idaho, Oregon, and Washington to review the recommendations of the senior government officials and to further develop their strategy for an international forum which will include all countries involved in this fishing; and

o Finally, a meeting which could bring together the affected American/Canadian jurisdictions and the countries of Japan, Taiwan, Korea, Thailand and, possibly, the U.S.S.R. to explore approaches to dealing with this issue.

The Victoria conference was attended by delegations from the U.S. and Canadian Federal Governments; the States of Alaska, California, Idaho, Oregon and Washington; and the Province of British Columbia. The delegates attending were encouraged to be prepared to provide input on the following subject areas:

1) Scientific and technical issues.
2) Economic and trade issues.
3) Operational concerns.
4) Treaty and policy issues.

Two basic questions were considered, both in presentations and by the delegates. These were:

1) What do we know and how serious a problem is this?
2) Potential alternative resolution strategies?

The outcome of the conference was that each attending delegation left with a fuller appreciation of the issues and with an awareness of the different perspectives held by the other jurisdictions. Furthermore, the delegations were ready to advise their Governor or Premier.

AGENDA OF THE NORTH PACIFIC DRIFTNET CONFERENCE

Dunsmuir Lodge, Victoria, British Columbia
July 17 - 19, 1989

Monday, July 17

Welcoming Address by
The Honourable William (Bill) Vander Zalm
Premier, Province of British Columbia

The Honourable Tom Siddon
Minister of Fisheries and Oceans
Government of Canada

Introductions by
The Honourable John L. Savage
Minister of Agriculture and Fisheries
Province of British Columbia

Tuesday, July 18

Session 1:

"What Do We Know and How Serious Is This Problem?"

The purpose of this session was to allow each invited interest group or agency to present factual information on the operation and effects of Driftnet Fishing.

Session 1A:

Session opening by Moderator, Dr. Michael P. Shepard.

Presentations by:

A. SEACOPS
B. U.S. Perspective (Federal)
C. Canadian Perspective (Federal)
D. Dr. Lee Alverson: "Ghost Netting and the Plastic Debris Problems"
E. Report of the "Third Consultation on the High Seas Southern Albacore Driftnet Fishery" - held in Suva, Fiji, June 26-28, 1989

Session 1B:

Presentations by:

F. Washington
G. Alaska
H. California
I. Idaho
J. Oregon
K. British Columbia
L. Discussion

Session 2:

"Developing Proper Approaches For Respective Jurisdictions"

Part One - Overview

This was a roundtable discussion of the issues, after which the moderator summarized the proceedings and noted the key points.

Session 3:

"Developing Proper Approaches for Respective Jurisdictions"

Part Two - Specifics

This session split into two simultaneous workshops. The working groups were instructed to identify, clarify and prioritize the issues and identify possible future approaches.

A. **Scientific:** This workshop dealt with the scientific or technical issues and the information needed for environmental and fishery purposes.

B. **Diplomatic and Legal/Economic Initiatives:** This workshop reviewed relevant international treaties, agreements, trade policy or legislation and current negotiations. It was directed to provide an understanding of the basis for future approaches.

Wednesday, July 19

Session 4:

Reports from Workshops: Followed by a discussion period.

Session 5:

Canada/U.S. Approaches From the National Perspective: This session consisted of two simultaneous, in camera workshops. One included Canadian delegates; the other included delegates from the United States. Each country's representatives viewed their respective concerns from their national point of view.

Session 6:

Wrap-up Discussion: This session was designed to set priorities and to provide recommendations for joint approaches.

FINAL ADDRESS:

The Honourable John L. Savage
Minister of Agriculture and Fisheries
Province of British Columbia

NORTH PACIFIC DRIFTNET CONFERENCE

LIST OF ATTENDEES

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Mr. Barry Collier Executive Director Pacific Seafood Processors Association	Suite 201 4019 - 21st Ave. W. Seattle, Washington 98199	(206)281-1667 (206)283-2387

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MODERATOR

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OPENING REMARKS BY
HONOURABLE WILLIAM VANDER ZALM
NORTH PACIFIC DRIFTNET CONFERENCE
July 17, 1989

- On behalf of the people of the Province of British Columbia, I extend a sincere welcome and best wishes to participants to the North Pacific Driftnet Conference.

- The central focus of this conference is of critical concern to British Columbia, Canada and the United States. The future well-being of the North American salmon stocks and countless marine mammals may be at stake.

- Large fleets of up to 1,500 Asian vessels are engaging in a destructive driftnet fishery in the North Pacific.

- These fleets are ostensibly pursuing the red squid fishery. But increasing evidence is being brought forward to show that driftnets are taking large catches of juvenile salmon on the high seas, including North American enhanced salmon stocks.

- These fleets are engaging in the so-called "driftnet fishery". Every vessel puts out 10-30 linear miles of light transparent net. Any fish or mammal that hits the net becomes entangled and dies. The net is indiscriminate: it traps squid, salmon, seabirds, whales from large grey to small right whales, dolphins and porpoises. The nets are set at night and retrieved the next morning. If lost or discarded, the net moves through the sea capturing everything in its path, hence the "ghost fishery".

- The purpose of this meeting is to bring together the representatives of concerned jurisdictions to assemble factual information on the nature and impact of the North Pacific driftnet fishery and to identify any lack of information and the means of generating required data; in particular, to identify technical, legal, administrative and political mechanisms available to address the issue, and a joint international strategy for consideration by our respective jurisdictions.

- This meeting is the first of a three-phase program to develop an international strategy to deal with driftnet fisheries that threaten our salmon resources and ocean.

- It is my intention that this inaugural meeting be followed up by a meeting between myself and the Governors of Alaska, Washington, Oregon, California and Idaho to review the recommendations of the senior government officials and to further develop a strategy for an international forum which will include all countries involved in this fishery.

- I further anticipate a meeting, hopefully in full co-operation with the Canadian federal government, which would bring together the affected American/Canadian jurisdictions and the countries of Japan, Taiwan, Korea, Thailand, and possibly the U.S.S.R., to explore approaches to dealing with this issue.

- We are not facing an easy task. We are talking about a large ocean area that is hard to keep under surveillance and we are negotiating with Pacific nations with whom we wish to maintain our good trading relationships. At the same time, however, we want to impress upon our trading partners the necessity for co-operative undertakings that will respect our mutual interests in ocean resources. Where legitimate high-seas fisheries are operating, they must be conducted with technology that selectively harvest commercial species. It is going to take all of our skill and commitment to continue to press for what we believe will protect and enhance our natural resources that depend on the North Pacific.

- Your insights, ideas, creativity and energies over the next few days will help clarify the problem and lead us to workable solutions. I fully realize that the Pacific driftnet fishing issue is multi-dimensional and complex and affects the interrelated interests of many of us living on the Pacific Rim. A solution requires the collective input of all of us attending this Victoria conference.

- My Government looks forward to considering your recommended approaches; I look forward in the near future to discussing your recommendations with my Governor colleagues in our neighbouring States.

- It is my hope that this Conference will provide a foundation to engender a spirit of multinational co-operation that will enable all nations to care for and share the resources of the North Pacific.

- I wish you every success with the challenge before you.

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SESSION 1: WHAT DO WE KNOW AND HOW SERIOUS IS THIS PROBLEM?

Session opening by moderator: Dr. Michael P. Shepard

From Transcript

Gentlemen, we have a very long agenda, so I would like to get started. On behalf of the conference organizers, I would like to wish you all a very warm welcome to add to the remarks of the ministers last night. First of all I would like to mention a few items on the housekeeping side. I would like to commend the conference planners for a very thorough preparation in particular for the excellent briefing book that we have which provides us with all the information we need, including descriptions of the amenities that we may have time to utilize during our sessions. We have two rooms separate from here if people would like to caucus away from the meeting. Those are 200 and 300; 300 has a bar in it, so perhaps there may be some division of people on the basis of their drinking habits. Also, in the basement, we have a work room for those who have spent too long in Room 300, and running paths around the building. If anybody would like assistance in making arrangements to use the amenities or if they have other problems, please contact the conference planners (they are in Room 352).

This conference is limited to invited participants; however, we do have a number of observers here and we would like to welcome them to attend the morning session and also to stay for the luncheon session. After that, the meeting will be limited to participants from governments.

Just a brief outline of our process. This morning, first of all, we are going to have a technical outline of the problem by various participants from government side and also organizations such as Seacops to define the problem that we have before us. The latter half of the morning, we will have expressions of views from government people at the federal, state and provincial levels. This afternoon, we are going to break into workshops to do the beginning of our work. There will be two sessions, one will be dealing with technical matters; the other with administrative matters. These workshops, we hope, will define the problem and array options for future actions to address the problem.

As a matter of housekeeping, to assist us in making meeting arrangements, I wonder if we could have a show of hands to indicate the number of people who intend to participate in the two afternoon sessions. First of all, those that are going to attend the scientific workshop this afternoon, I wonder if you could indicate that. So, conference planners, can we make a note of those hands? I assume that the remainder will be attending the diplomatic and legal/economic initiative workshop.

Tomorrow, we will attempt to synthesize the problem and to draw conclusions at the end of the session that will hopefully lead to future initiatives to further develop approaches to the problem. Regarding documentation, the proceedings in this room and plenary sessions will be recorded, so I hope that people participating will keep that in mind. At the end of the session, a communique will be prepared and we will also attempt to assemble all documentation that has been presented at this meeting. I would ask those that would like to circulate documents to please pass them to the conference planners, if they need to be reproduced, or to the conference planners if you have copies for distribution at appropriate times during our agenda.

As I said, the time is very short, so I will not give you an impassioned address at this time. I think that we will leave that to the participants who will lead us through this morning's discussion. Perhaps a few short general remarks are in order:

The problem we are dealing with is one of great public concern. This is reflected in the fact that with relatively short notice such a meeting as this has been convened with representatives from so many jurisdictions. Not only from the North Pacific area, but also from the South Pacific. We are especially grateful to welcome representatives of the governments of Australia and New Zealand and the Forum Fisheries Agency. I think this is an indication that we share a common problem and that everyone is anxious to explore pathways for cooperation in finding solutions.

The problem is particularly perplexing, because it involves so many uncertainties. The uncertainties lie in two areas: first of all, factual knowledge of the affects of driftnetting on the fisheries resources that are of concern to us and on the environment, generally. There is a second source of uncertainty, and that is that because these fisheries occur on the high seas, there is a lack of clear-cut international mechanisms to deal with it. It is these uncertainties that have created public fear, if one might call it that and have resulted in public pressure for vigorous action. In this case, it is the devil we don't know that we are dealing with; and that kind of devil is always the most difficult to deal with. The principle purpose of this conference is, to the extent possible, to deal with these uncertainties by martialling knowledge that we have as a basis for soundly-based future actions. As discussed by our ministers last night, there are no simple solutions. Policies can not be based on ill-founded suppositions. So I think that the conference's objectives in this regard are very helpful. In the background to the conference it is stated that the intended outcome of the conference is that each attending delegation will leave with a fuller appreciation of the issues and with an awareness of the different perspectives held by other jurisdictions. I think that we should maintain this as our objective.

In addressing the problem, I believe that we should keep in mind the fact that the driftnet problem is a microcosm in the broader system of man's use of the oceans. That is only one part of the problem. We have important concerns about the environmental affects of the driftnet fishery, but at the same time we must be prepared to discriminate between the supposed effects of driftnetting and those that are caused by other factors -- including our own uses of the sea; the affects of our own fisheries; of our own fisheries management policies; and of environmental degradation that can be attributed to us as North Americans.

I think that we must define the problem with great clarity before we take further steps to seek solutions.

Without further delay, I think we should proceed with our agenda. We have a very tight agenda, so I would ask the speakers to restrict themselves to the time allotted. The first session this morning, we will have no time for discussion, I fear, so I think that I would propose that we proceed until coffee break at 10:00 a.m. with the presentations on "What do we know and how serious is this problem?". Immediately after coffee break, before we have expressions of views from various jurisdictions, we will have an opportunity for questions, so with that, I would like to ask Seacops to begin our morning session.

Thank you very much.

SEACOPS **- Mr. Mark Tennant**

From Transcript

Thank you. On behalf of Seacops, I would like to thank Premier Vander Zalm of the British Columbia government for the opportunity to address this session. I would also like to commend the government for their farsightedness in establishing this type of an agenda where the problem can be discussed on an international issue.

Seacops was formed in September, 1988, basically in response to some very poor salmon returns in southern-southeast Alaska. The pink and coho runs there, in spite of careful management and costly enhancement programs which had caused them to increase steadily through the 1980s, were simply disastrous in 1987 and 1988. For instance, in 1988, only 12 million of the predicted 24 million of pink salmon returned to parent streams in southeast Alaska. Coho runs were even worse. The return of coho salmon to the southern-southeast regional aquaculture association in southeast Alaska illustrates the point. From 1980 until 1986, ocean survival rates for cohos, which of course were under controlled hatchery conditions, averaged from 7.7% to 13.2 percent. In 1987, the survival rate for these fish dropped to 3.7% and then in 1988, to 1/2 of 1%. This represents 15,000 out of an expected 260,000 return. The Hatchery manager reflects that the fish were released in good shape and in good numbers but that something had to have happened to them in the ocean. Further investigation by the members of Seacops led to the conclusion that the best answer to the mysterious disappearance of southeast Alaska salmon could be explained by the interception of the high seas driftnet fleet.

Actually, Seacops was a rather late entry into the fight against high seas interception. Fishing groups and environmental groups had been carrying on a rather lonely battle against the deadly monofilament nets for some years. Since last year, in particular, national or perhaps I should say international attention has been focussed upon the issue and it's increasing rapidly. However, the question that we are considering here is how serious the problem is.

Accurate estimates of the amount of fish which are being intercepted are very difficult to obtain, as has been noted. Seacops has estimated that the figure is quite significant, as many as 30,000 metric tonnes and perhaps much higher than that. We are not interested in setting new standards for scientific accuracy, but what we are determined to do is to publicize the fact that the high seas driftnet fleet poses a serious threat to the marine resources of the Pacific. We agree with those who point out that accurate scientific data is very important. We can easily appreciate that any reputable well-trained scientist is going to be very reluctant to speculate on numbers of fish, especially when the evidence is not there to substantiate specific numbers. However, we feel that the available evidence while it may not allow for precise numerical calculations of high seas interception, does substantiate that a lot of fish and other marine sea life is being trapped by the deadly

monofilament nets. Our point, is that the primary purpose of collecting data should be to protect our marine resources and not merely to document their rapid decline. One indication of the extent of high seas interception, for instance, consists of wide-spread reports by both commercial and sports fishermen of net marked fish. These reports are very common. A substantial number of our members have indicated on their membership forms that they have had indications of fish that had net marks. The question, of course, which arises is whether these are legitimate, where did they occur, and so forth.

Just recently, however, to illustrate the point, I received a call from the crew of a seiner which was fishing off the west coast of Prince of Wales Island and indicated that they had some net-marked fish. So, I made a trip down to the seiner and they had a dozen-to-fifteen fish which were clearly net-marked. I was a gillnetter for several years; that is, a domestic terminal gillnetter, gillnet fishing that is. The fish were not sea lion bit or trawl board marked, clearly the laceration represented the marks of a net. I checked with the commercial fish biologist in Ketchikan who indicated that there was practically no reason to assume that the fish had travelled through a domestic gillnet fishery.

One of the problems that we face, of course, is that much of the information is anecdotal and that we really need to be able to substantiate on a more scientific basis that the probability exists that these net marked fish do come indeed from the high seas squid fleet.

Another indication of the problem of high seas interception comes from intercepted market reports. We have a whole file of these; I would like to read just one illustration. This is from a telex received by a major southeast Alaskan processor, September of last year, from an overseas agent:
"Went to the NCS cold storage, Singapore, and met Taiwanese principals offering round and headed and gutted chums, sockeye, coho and pinks. They claimed to have shipped a total of 7,500 metric tonnes so far this year, all from North Pacific waters. They were processing chums that weighed from 3-to-4 pounds dressed. Earlier this year, they sold in Bangkok, Thailand, 600 metric tonnes of blocked, frozen, mixed pinks, cohos and chums. They fail to tell you that this fish is caught in Alaskan waters by Taiwanese vessels catching 100% illegal salmon. They are allowed an incidental catch of 10%, but this is a joke to them. Salmon exports from non-salmon producing countries give another clear indication of the extent of the problem; especially in Singapore and Thailand. For example, salmon imports into France from Singapore increased from 0 metric tonnes in 1984 to almost 2000 metric tonnes in 1987. They're sure to know our coho streams in Singapore, obviously the only source of the fish which were exported to France were from the high seas fleet.

Incidentally, the squid fleet does harvest squid, contrary to some beliefs there and lots of them, in fact, on the average of 200 thousand metric tonnes -- sometimes almost one-quarter million metric tonnes. Recent reports that we have received indicate that the average size of squid harvested by the squid fleet is also declining. This points, I think, to the fact that there is nothing out there, even squid, which are immune to the modern technologies of our day.

Coast Guard surveillance is another indication of wide-spread violations by vessels fishing over the line. The Coast Guard, last year, made a total of (because of very under-funded budget) eleven aircraft surveillance flights and one sea patrol. During this period of time, they identified 94 vessels fishing over line. Some of them as far as 500 miles north of the legal boundary. One of them that was boarded was a Japanese vessel. When the Coast Guard approached the vessel, the response was to lay out its approximate 40 miles of net which took 4-to-5 hours. By the time the Coast Guard finally boarded the vessel, there were five fish left aboard, three salmon and two steelhead, frozen, headed, gutted and stuck in the scuppers. This obviously was what was left of whatever was aboard previous to the laying of the net. This year, the Coast Guard's surveillance efforts have been about 700% increased. As of a couple weeks ago, the last time I checked, they were still routinely spotting fishing vessels north of the line. However, as of yesterday when I called them, they indicated that the number of vessels which they had detected had dropped substantially. During the last couple of weeks, perhaps because of recent pressures placed upon the driftnet fleet, the incidence of vessels over-line was not present.

The National Marine Fishery Service has indicted 22 individuals and organizations for illegal importation of salmon during the past couple of years. The amount of illegal salmon which has been seized in these arrests amounts to slightly over 52 million pounds. One of the persons involved in this illegal marketing allegedly offered to sell 24 million pounds of Taiwanese caught salmon to an undercover Canadian enforcement officer who was posing as a seafood broker. This same person also reportedly was financing 30 of these driftnet vessels to obtain the catch, which he then sold illegally. Forty Taiwanese vessels represents an amount of gear which is larger or greater than the total amount of gear which is deployed by the Bristol Bay Gillnet fleet which is our largest fishery in the State of Alaska.

The pattern which emerges, therefore, appears to consist of flagrant violations, in particular of Taiwanese fishing vessels financed primarily by Japanese business interests. Again, none of the evidence which I have or reports which I have just given here, can prove that the diminished returns in a particular stream are attributable to the high seas driftnet fleet. However, the evidence clearly points to massive interceptions. How much of the catch is directed and how much of the catch is incidental is also uncertain. Obviously, the only way to find out is to stop the illegal foreign vessels which are crossing north of the line and then they can see what the results may be on our returns.

In addition to this, there is another problem; sea service temperatures indicate that the colder ocean temperatures which penetrate inside the northern boundary of the squid zone. The northern boundary is drawn on the 15 degree centigrade isotherm but reports indicate that water as cold as or colder than 10 degrees centigrade exists within the legal zone. So, obviously, this is going to provide an environment which is going to be hospitable to salmon and steelhead. It is our fear that many of our anadromous fish are penetrating into the squid zone where they are being caught incidentally but "legally" by the Japanese, Taiwanese and Korean vessels. In order to avoid these incidental catches then, the line should be drawn further south. Unfortunately, the recent United States agreement with Japan, which in our estimation does not comply with the requirements of the Driftnet Act allows the Japanese to move the line even further north, an arrangement which has been vehemently opposed by United States and Canadian fishing interests. The recent agreements with Japan and Taiwan have caused United States fishing interests to fear that the Department of State and the Department of Commerce are more interested in politics than in protecting the marine resources of the Pacific.

Another problem with high seas squid fleet is that they may be depleting the tuna albacore stocks. The Western Fishboat Owners' Association reports that apart from the harvest of approximately 30,000 metric tonnes during the 1970s, there has been a decline since the introduction of the squid fleet into the tuna fishery. Last year, their catch was 4,000 metric tonnes and according to the Director of the WFOA, the catch for the Japanese fishery is also declining. In addition to this, Japanese scientists have repeated a decline in three-year old stocks within the long line catches in their own tuna fleet. These catches, of course, we should point out are not illegal, but they do raise the question of the health of the resource, something which we also must be concerned with.

Recent actions by South Pacific nations have resulted in the ejection of driftnet fleets from the 200 mile zone to those countries in the South Pacific and a call for an outright ban on driftnet fishing altogether. There is such an outcry that the South Korean government decided to withdraw their fleet from the South Pacific. Unfortunately, for United States and Canadian fishermen the problem just got moved north. The Japanese reply, was their stock and standard reply, no evidence of any harm being done to the tuna albacore fishery. South Korean precedence may offer some hope that if governments do put up a firm position that perhaps fleets can be persuaded to remove themselves.

One of the most damning indictments of the high seas squid fleet is the indiscriminate slaughter on non-target species of seabirds and marine mammals, but there are serious biological problems with the harvest of anadromous fish as well. Since we are all pretty familiar with this, I will hurry through. For instance, immature fish, 3,4, or 5 pounds because most of the growth

occurs during the last year of their lives, plus a drop-out rate approaching a one-to-one basis. Japanese complain because other countries do not appreciate the importance of fish in their diet, and yet this an extremely inefficient method of harvesting fish. Another problem is they are fishing in mixed stocks, which makes them impossible to manage. An additional problem is there are these nuts that go floating off the ghost nets which we are going to hear about shortly. We think this is a serious problem. In addition to this, there are serious hazards to navigation which are being posed by these driftnet fleets. Recently, a sailor from West Germany, who has made three trips around the world, quite famous in Germany, has written a number of books, was sailing from New Guinea to Alaska in the middle of the night, when at 25 knots in fairly rough sea, all of a sudden he came to a dead stop in 2,000 fathoms of water; he had no idea. He took the sails down and walked around the edge of the sea rail, checking with his light. Eventually, the boat freed itself and he had no idea, he thought this was some sort of defence mechanism here that was being deployed. He got to Alaska, read some Seacops literature and realized that he had been gillnetted! We think that this represents a serious threat to navigation. Another charge against the high seas driftnet fleets is that they pose a serious threat to the marine environment. The catch of sea birds, marine mammals and other sea life ought to be a concern for all of us. Canadian government, and I would like to commend them for this, especially since the action was taken previous to the recent outcry against the high seas gillnet, did ban the gillnets after two years' experimental fishery. I would like to point out, however, that if they're wrong within the 200 mile zone, they should also be wrong outside the 200 mile zone. It's also interesting to point out that the Japanese have banned the drift gillnets from 1,000 miles of their home island. It has been estimated that the harvest of ocean resources has increased 15-fold since the beginning of this century.

Our ocean resources simply cannot withstand the onslaught of modern technology. The myth of inexhaustibility has been replaced by the certain knowledge that our oceans' resources must be managed carefully to avoid decimation. The best long-term solution is to ban the use of driftnets altogether. In our estimation, the answer is not to compromise with the driftnets. There are problems which are inevitably going to arise. First of all, it's going to be impossible to enforce the driftnet zone, it's an area bigger than the continental United States. The cost involved is going to make enforcement very difficult, if not impossible. Second problem, is that the driftnet fleet is inevitably only going to expand; it's not going to shrink up and go away. We are going to be faced with the problem of many other non-salmon producing countries, also becoming involved, then we are going to have a real mess on our hands. Not to call for a ban on driftnets is also to ignore the larger moral issue of this. We recommend that we should adopt a united front with Canada and the United States should join with the South Pacific states and call for an outright ban on the high seas driftnet fleet.

Thank you.

NORTH PACIFIC DRIFTNET CONFERENCE

THE BRITISH COLUMBIA POSITION

Speaking notes for the British Columbia Perspective on Driftnets, July 18, 1989

Ministry of Agriculture and Fisheries sees two principal elements to the issue:

1. **The interception of salmon by non-salmon producing countries is a violation of "accepted" international recognition that salmon "belong" to the country of origin. Linked to this, is our concern over the indiscriminate catch of other non-target species of fish, sea birds and marine mammals.**

2. **The broader issue of marine plastic debris is one of the principal concerns that must be addressed if we are to manage our ocean resources on a sustainable basis. The practice of stripping unwanted monofilament webbing and discarding it is simply not compatible with responsible, renewable resource management.**

Premise of Provincial Concerns

The province has a long standing and direct interest in the salmon resources and the well-being of its commercial and sports fishing industries. The province has foregone major economic development opportunities in order to protect salmon habitat - particularly hydro-electric development. It imposes restrictions on forest harvesting operations, management of water, and on a long series of land use practices - all to protect the freshwater and near-shore marine habitat on which salmon depend.

Of late, this long standing provincial concern for the integrity of salmon stocks and for local environmental quality is being linked, in government and public consciousness, to the necessity to view our roles in the context of our global environment.

Having laid out our basis for concern, the Ministry of Agriculture and Fisheries is mindful that the management of fish harvesting, anywhere around the globe, must acknowledge the legitimate right to harvest stocks in international waters on a sustainable basis.

Our collective objectives, then, as fisheries managers - and as bureaucrats who are responsible for setting the framework for maintenance of profitable fisheries industries - must be to promote and develop globally acceptable practices that will provide for responsible sustainable harvests without threatening the well being of other target or non-target species.

The province has taken both a long term and short term approach in order to pursue our objectives.

Long Term

- Official provincial representation at the International North Pacific Fisheries Commission - this provides an avenue through which to influence fisheries operations in the North Pacific.

- For each year's annual meeting and negotiations the province puts forward an official position to the federal government and the Canadian Commissioners.

- Since about 1983 our concern over discarded and lost nets from driftnet fisheries has been incorporated in the federal position.

- Fishermen commissioners to INPFC drew our attention to the larger issue of ocean plastic debris and specifically to a problem that emanated from cruise ships in our own back yards along the coasts of Alaska, British Columbia and Washington.

- In order to help "clean-up our own back yard" the Minister of Agriculture and Fisheries has enlisted the assistance of his colleague, The Minister of Tourism, who has worked with the Cruise Industry Association of B.C. to ensure that cruise operators discharge their garbage at ports rather than along our coastlines.

From the Minister of Environment

- The Ministry of Environment responded by extending provincial waste management legislation to regulate discharges to the marine environment.

- Both of these positive responses are good examples of the widespread cooperation that is essential - at local, national, and international levels, if we are to manage our national and international resources in an effective and sustainable fashion.

Short Term

The Minister of Agriculture and Fisheries and his government have pursued eight specific action points

1. The Minister has communicated our interest in assuring protection from high seas harvest of British Columbia origin salmon and steelhead, directly to the federal Minister of Fisheries and Oceans, who is responsible for international fisheries agreements.

2. The Minister has reflected industry concern that the federal government had been slow to show evidence that it was pursuing this issue through its normal diplomatic channels. This was communicated directly to the Minister Responsible for Canada's External Affairs, The Right Honourable Joe Clark, who was urged to put the machinery of his department to work on the case.

3. Subsequently the Premier made a formal statement to the provincial legislature in May of this year: this was well received by both sides of the House as well as the British Columbia public.

4. Immediately following this action, the Minister of Agriculture followed up with a press conference and a TV viewing of the Earthtrust Video.

5. Following this, the Premier of British Columbia officially communicated his concerns to the Prime Minister of Canada.

6. Two weeks ago, the Province sent a representative to the Driftnet Conference in Suva in order to draw from that experience to assist us with designing our approaches in the northern hemisphere.

7. In addition the province has financed one of the five observers that Canada has placed on Japanese vessels in the squid driftnet fishery.

8. In late May the Premier proposed a three-phased series of meetings to develop:

   - A North Pacific focus by way of this technical conference

   - A North Pacific political focus through a meeting of the Premier of British Columbia and State Governors

   - An international conference that would incorporate the North Pacific Rim interest at large.

We trust this meeting will now lead to planning the next two initiatives.

PRESENTATION BY: Mr. Denby Lloyd, Alaska

From Transcript

I would like to keep this presentation mercifully short and just present the general concerns of the State of Alaska and and Governor Cowper, in particular. I am Denby Lloyd and I am new to many of you, but I am the Governor's Assistant for Natural Resources.

The Governor has taken a very personal interest in this issue and as you can imagine, it has been highlighted by one of the points that Dr. Alverson presented and that is the transfer of benefits caused by this fishery. Seacops and other groups have presented arguments of economic damage because of high seas interceptions, whether they're legal or illegal. But beyond the transfer of payment argument, there are very real management and conservation arguments against the international high seas fishery that takes anadromous fish. The conservation concerns revolve around lack of data from the fishery and you've just heard discussion about how difficult it is to get good data to even answer rudimentary questions of stock separation, distribution of fish, etc. Another conservation concern, obviously, is the by-catch of seabirds and marine mammals which may not yet be translated directly into economic value but certainly have some contingent value in economic terms, as well aesthetic and cultural value.

Perhaps most important for the State of Alaska are the management concerns. Most of our concern is for anadromous fish and in Alaska we have a broad spectrum of species and fisheries that we are trying to manage in local coastal waters and these salmon fisheries are difficult enough to manage with local interception trying to segregate our own stocks, even close to shore. It becomes well nigh impossible when that is compounded by high seas take of these fish when they are mixed with even a larger number of stocks.

The State is also involved in many habitat improvement projects, enhancement projects, etc. that we can not even gauge the success of, when there is a high seas take of salmon, so I think in an international forum we recognize that the State of Alaska is not a powerful political player, but we intend to become as powerful as we can and are not shy to advocate a complete ban on international high seas driftnet use in the North Pacific.

Thank you.

PRESENTATION BY: A.E. ("Spike") Naylor
Assistant Director
Department of Fish and Game
External Affairs
State of California

From Transcript

I would like to say that I appreciate the invitation that we had to attend this conference since we in California are aware of the problem and the effect that it has on the marine mammals and sea birds. I would expect that and I foresee a lot of pressure coming from that group of politicians and government agencies to do something to resolve the problem and I think that will intensify as time goes on.

Lastly, in the matter of international trade relations, which is of extreme importance to all of our states and especially for me in California. In the last three days, there has been a meeting in Long Beach, California involving 17 governors from western states and three territories; and also the Vice President of the United States is going to be there. The theme of that conference is and I quote "Going Global - A Western State's Trade and Prosperity Strategy". I doubt if the high seas netting issue is on their agenda but I hope after the three meetings that the province and Canada has planned that maybe their next meeting, well we'll have an issue on their agenda. I am sure much of their discussions will involve the Pacific Rim countries and trade with many or some of those countries. We will be discussing these issues here today and tomorrow.

I think we must craft our solution to protect the resources, while keeping in mind that other delicate negotiations are proceeding that will have a real crucial bearing on what we do.

I would, again, like to thank you for inviting us here to the meeting.

PRESENTATION BY: Mr. Virgil Moore, Fisheries Research Manager
State of Idaho

From Transcript

We appreciate the opportunity to participate in this workshop. I suspect that we may even be a smaller political power than Alaska is, but our Governor is interested in this issue and has urged our department to fully participate and express Idaho's concern about the high seas driftnet fishery.

Last night, I had a reporter ask me "Why is Idaho here?". We are part of the Columbia Basin and salmon and steelhead are an important component of the fishery to our state and the interception and illegal harvest occurring to salmon and steelhead that originate in Idaho therefore are of great concern to us. We do produce spring and and summer chinook salmon, summer steelhead that contribute to the high seas stocks from North America. We provide over 5,000 miles of streams for spawning and rearing habitat for anadromous fish. In addition, we release nearly 20 million salmon and steelhead annually into the Columbia Basin, for the subsequent rearing, harvest for various fisheries and the return to Idaho for brood fish.

Salmon and steelhead are important to our economy. In addition, stocks of Idaho salmon and steelhead contribute similarly important benefits to other economies and peoples of the northwest and apparently the Asiatic countries.

In recent years, the status of our stocks has declined drastically. As you are aware in the Columbia Basin, the stocks that reach Idaho have to transcend downstream and upstream a complex of eight hydroelectric dams. We are a terminal fishery; we have a tremendous stream-spawning resource and rearing area, but the gauntlet which has to be run by those fish is tremendous as compared with some of the coastal resources that the anadromous fish have to take. Therefore, any additional mortality factor that occurs to these fish on the high seas is of concern to us, because as I was telling one gentleman last night, we live and die by tenths, maybe even hundredths of a percent in mortality in terms of our terminal sports fisheries in Idaho. The hatchery stocks that we do have provide the only reasonable opportunity for sports fishing to Idaho anglers. Hatchery stocks of chinook maintain a preservation buffer for our natural and wild stocks but have not resulted in any consistent rebuilding effort to date. Harvest is limited to a small portion of available stocks taken incidentally to maintain stocks in the Pacific Ocean and Columbia River.

Our major reasons for the decline in fisheries in Idaho are attributed to the hydroelectric development on the Salmon, Snake and Columbia Rivers, the high exploitation rates in national and international fisheries and natural mortalities associated with the oceanic environment. We are working hard in conjunction with most of you here in the Columbia Basin to resolve and solve the specific problems of our stocks.

Presentation by Mr. V. Moore cont'd.

The area of ocean environment has not been a focus for Idaho in the recent past and apparently not a significant area of national concern for research and fisheries monitoring. The draft reports of the Secretary of Commerce on the Driftnet Impact Monitoring Assessment and Control Act of '87 sum up the problems associated with the effective ocean research and monitoring. To obtain statistical reliable estimates, 5 percent of the total area of the species occupied must be surveyed. Compare this to covering 5 percent of the continental United States by surveying from a car or truck in a systematic manner at 12 miles per hour, stratifying from mountain ranges, plains and deserts, etc. Idaho has ample volumes of mountains, plains and deserts, much of it in inaccessible wilderness which allows us to understand the difficulties of ocean evaluation and answer determination.

The recent indications of impacts of salmon and especially steelhead by high seas driftnet, squid fisheries in relationship to ocean mortalities on Idaho stocks of concern have Idaho's attention. That's why I'm here to express to you Idaho's support for exploring the reality of what appears to be a major impact factor on salmon and steelhead. I think I would change that "appears" to "we know" the fish are there. We know they are being caught, we just need to quantify the impact at this point'.

Idaho salmon and steelhead stocks of concern are most surely taken in the high seas driftnet fishery. The lack of good quantitative information, comprehensive monitoring and fleet reporting is interfering with good fisheries management, as has been mentioned here before. Questions as to the number of the fish by stock and species taken, the numbers lost to drop-out from fishing nets, the numbers taken by illegal fishing activity and primaries of salmonid distribution need answers.

Idaho fully supports actions that will solve these questions and resolve the problems of North American fisheries management. In addition, we support the concerns of coastal states and Canada for marine mammals and sea birds.

I look forward to the remainder of the workshop and interaction with you about the problems and solutions that we can come up with here.

Thank you.

PRESENTATION BY: Mr. Jim Martin
Oregon Dept. of Fish and Wildlife

From Transcript

I am Jim Martin from the Oregon Department of Fish and Wildlife. I bring you greetings from our Governor, Neil Goldsmith.

I won't go into repeating all the things that have already been said, except to say that Oregon is very concerned about the potential, where the situation has been, where it is now but most important -- where it is going; and the approach that we are going to take in an orderly and diplomatic way of dealing with the problem.

There are two ways of looking at the potential of impacts on Oregon resources; one is to directly estimate the impacts out in the fishery and then put that in perspective to what's returning to Oregon and then draw a conclusion about the sustainability of the situation and the kind of trajectory it's headed.

Since we are unable to estimate the direct impacts in the fishery, we have attempted to look at the indirect approach by looking at the trends of escapements, trying to sort out whether we have a clear evidence of a problem much as was exhibited in the early days of the Icelandic impact on Atlantic salmon. In examining the picture, we looked at north-migrating chinook; we looked at summer and winter steelhead populations; we looked at the small sockeye population in the Columbia; and we were unable to demonstrate any clear evidence of declining trends over the last eight or nine years. Unfortunately, this analysis is compounded by environmental variation which bumps populations all over the place. On-going enhancement efforts, for example. In the Columbia, survivals are being improved through enhancement, management of the dams as well as enhancement of populations and habitat and changed harvest patterns over that same time. So, the bottom line is that we do not appear to have a disaster on our hands. The caveat is that it would take darned near a disaster before we would detect it, and we certainly can't stand to wait that long. So, an indirect approach to defining this problem certainly is not adequate. A more direct approach for defining the problem is what's required.

We are very concerned about a number of resources that have high potential for negative impact on Oregon. One of the most concerning problems we see is the declining albacore. Of all the resources, I think we probably have the best case to make that there's a serious negative impact on albacore. Now that's not as sexy as salmon or steelhead, because we have a clear-logged sea priority for anadromous fish. The situation with regard to albacore is much more fuzzy. But of all the concerned points, I guess I would put our first priority on the albacore situation. Secondly, we are very concerned about steelhead and sockeye in the Columbia River. Those fish have a tremendous problem. As Virgil has cited already, their productivity has been sapped by those dams already and we can not afford to lose any more of those fish. That's not just an allocation issue, that's a conservation issue.

Presentation: J. Martin cont'd.

At a low level of concern, we are concerned about the potential for impacts on north-migrating chinook and we are particularly concerned about the potential for impacts on northern sea lions. We have a very viable population of northern sea lions in Oregon waters; however, there is a very real threat of losing the entire species in the North Pacific; and if that happens the impact on Oregon fisheries could be very substantial. So, of the things that appear to have potential for negative situation vis-a-vis the impacts of driftnet fishery, those are the ones we are most concerned about.

The action that needs to be taken is to estimate the impacts directly in the fishery to determine the origin of the stocks impacted, to put in perspective that impact on the conservation and management of those stocks and then finally to negotiate, not hammer...but negotiate, action with our trading partners. You have to remember that these folks we are talking about are very, very, important Pacific Rim trading partners. I would just like to back up what Spike said, we can't run around shooting ourselves in the foot, shooting off at the lip before we have the information. Alternatively, we can not allow the situation in the Pacific to evolve as it did in the Atlantic, where the conservation signal was sounded on the status of Atlantic salmon. For many, many years there was a lot of hand-wringing, a lot of negotiation, a lot of speculation and some stocks were lost before the situation was finally resolved. None of us want to repeat that long, agonizing process. Fortunately, it appears that the public's consciousness has been elevated on the concern of this problem much more rapidly, kind of in perspective to the Atlantic salmon interception situation. I certainly hope that we can do something positive about this problem before we get to that dire level of conservation emergency.

Thank you.

PRESENTATION BY: Ms. Judith Merchant, Washington State

From Transcript

Thank you and good morning.

We are very pleased to be a part of this very important conference. We are disappointed, however, that an important part of the Washington delegation was not invited as a participant today. You may be aware that in Washington State, the management of salmon and steelhead is a shared responsibility among the state agencies and the 26 Indian treaty tribes that are represented by the Northwest Pacific Indian Commission and the Columbia River Indian Tribal Association. We co-manage these resources together and we have a government-to-government relationship with these 26 tribes. I realize that our relationship in Washington is a unique one; however, the tribal interest is very high, as well as their expertise in contributing to a conference of this nature. But we do have two state agencies represented this morning: the Washington Department of Fisheries, (I am the Deputy Director of that agency), and the Washington Department of Wildlife. We are also unique in our management in the state agencies. The Washington Department of Wildlife is responsible for managing trout and steelhead as well as wildlife; and the Washington Department of Fisheries has responsibility for salmon and other anadromous species, as well as marine finfish and shellfish.

This morning, we are going to have presentations by two individuals. One is Mr. Lee Blankenship, from the Department of Fisheries. He is one of our experts in genetic stock identification and he's going to make some comments on action plans for determining stock origin of salmon that are caught in high seas fisheries. Following him will be a presentation by Mr. Peter Hahn from the Washington Department of Wildlife, who is head of Fisheries Research for that agency.

AN ACTION PLAN FOR DETERMINING STOCK ORIGIN OF SALMONIDS ILLEGALLY HARVESTED IN HIGH SEAS FISHERIES

Lee Blankenship, Washington Department of Fisheries
July 1989

We all recognize the importance of eliminating the illegal harvest of North American salmonids by the driftnet fleets in the North Pacific. The Soviet Union shares the same concerns about their fish stocks. These foreign fishing activities on the high seas are illegal under both domestic and international law. Before our respective governments can take enforcement action to eliminate the interceptions of their salmonids, we must know the origin of the fish onboard foreign vessels or the stocks in the area in which the vessels are fishing. Stock identification methodologies exist which allow the accurate and precise identification of the origin of these mixed salmon and steelhead stocks.

Genetic stock identification (GSI) and, to a lesser extent, scale pattern analysis (SPA) are capable of performing this analysis. Washington Department of Fisheries (WDF) believes that GSI is ideally suited and the most desirable stock identification tool to use for identifying the stock origin of salmon harvested on the high seas. On large-scale mixed-stock fisheries, GSI allows a better stock separation capability with greater accuracy and precision than SPA. GSI has the advantage of using genetically controlled characters, thus ambiguity associated with environmentally influenced traits does not compound the analysis and GSI eliminates the need to collect and analyze stock reference samples each year. Ideally, the most accurate approach is a combination of GSI and SPA. WDF presently applies both techniques for stock identification and is developing advanced statistical programs to combine information from the two techniques.

GSI already plays an integral role in the separation and identification of North American salmon stocks for the U.S./Canada Pacific Salmon Treaty. Recent research by WDF's GSI laboratory has produced major breakthroughs in stock identification, increasing (two- to three-fold) the amount of genetic information available for differentiating U.S. and Canadian pink and chum salmon stocks. In the near future WDF similarly will be enhancing GSI stock separation capabilities for steelhead. A comparison of North American data with limited genetic data from Japanese and Russian scientists indicate that much larger differences exist between Asian and North American stocks than among North American stocks.

We now need to enhance existing GSI capabilities to develop a complete baseline database by sampling and analyzing the remaining major stockgroups which potentially contribute to the high seas fishery. The baseline database is currently the weakest link in analyzing high seas salmonid interceptions because of very limited data for Asian stocks and some gaps in North America. Developing this information would allow an accurate and precise determination of national origin of salmon and steelhead stocks intercepted by these fisheries.

WDF has supplied National Marine Fisheries Service, U.S. Fish and Wildlife Service (USFWS), Pacific Salmon Commission, and Canadian Department of Fisheries and Oceans with the newly developed chum and pink baselines along with the associated analytical protocols. WDF is presently working with USFWS in developing an agenda for a coastwide GSI coordination meeting in early September to identify those major northerly stocks in North America which are presently lacking in the baseline. We recommend that the GSI laboratories and/or agencies responsible for these more northerly stocks prioritize their work schedules to incorporate these stocks into the baseline database. A similar assessment of baseline analysis needs for steelhead will be required.

To obtain support and cooperation from the Soviet Union and Japan, the scientific methods and results will have to be of such a nature that they have credibility and are accepted by all nations. To this end WDF has been active in developing a system to standardize GSI methodologies, so that results can be replicated by other scientists. One standardization step already completed by WDF is the creation of a laboratory manual which detailed analytical methods and associated photographs of the observed isozyme patterns. Another step which WDF has proven useful coastwide is a frozen tissue collection containing standards of all of the currently documented genetic variation. We presently have such reference materials (consisting of approximately 4,000 known samples) for chum, pink and chinook salmon and soon will be establishing tissue archives for steelhead. We are willing and anxious to exchange these tissues and protocols to provide for verification and collaboration between countries, just as we have already done coastwide in North America.

Action on these recommendations will allow us to document the impact of high seas fisheries on our salmonid resources.

PRESENTATION BY: Peter Hahn, Washington Department of Wildlife

From Transcript

As introduced, I am Peter Hahn with the Washington Department of Wildlife and I am supportive of Lee Blankenship's statement. My agency is also supportive of other factually-based efforts to resolve this situation to the extent that we are able, and where needed we will cooperate with others. There are generally two ways to look at impacts of a recent change in high seas fishing mortality on steelhead. The first way is to document the catch of such fisheries by direct observation. Much talk has been in this area already. This requires tags, marks or other stock identification methods. It requires sampling the catch and monitoring the effort. Such data are very difficult to obtain under this circumstance. However, based on data from Canada, Alaska, the Fisheries Research Institute, National Fisheries Research and others, Washington State steelhead stocks are known to occur in the area that legal and illegal driftnet fisheries occur. They seem to travel further west than any other species. Unfortunately, I had no way and no data to estimate this impact quantitatively on our stocks. The second way was for me to look at adult return data for index streams in Washington for any obvious trends in survival. We have good run reconstruction data starting in the mid-1970s for several rivers -- one coastal, one in Northern Puget Sound, one in Southern Puget Sound and then in fewer years one on a fourth river in Central Puget Sound. The drawback to this analysis would be lack of causal evidence; in other words, the lower survival can result from factors other than driftnets. Looking at both hatchery and wild stocks, I found no evidence of a decrease in survival in recent years and that's including data from 1987-1988. We don't have this year's data analysed completely yet.

A lack of decline, however, is not proof of no impact but the impact on individual Washington stocks that I looked at does not appear to be severe. The conclusion is that we need information directly from intercepting fisheries. I believe that all illegal fisheries should cease and that any fishery that has substantial adverse impacts on any non-target species should be modified, reduced, replaced or eliminated.

Thank you.

TARAWA DECLARATION

The South Pacific Forum meeting at Tarawa on 10-11 July 1989

recognising the crucial dependence of the Pacific Island peoples on marine resources;

profoundly concerned at the damage now being done by pelagic driftnet fishing to the economy and environment of the South Pacific region;

convinced that this indiscriminate, irresponsible and destructive fishing technique threatens the survival of the albacore tuna resource, and so the economic well-being of Forum Island Countries;

deeply regretting the Japan and Taiwan have failed to respond to the concerns of regional countries about this most serious issue;

noting that it is in the mutual interest of the major fishing nations active in the region, and the Forum, to conserve fisheries stock;

noting that all countries inside and outside the region are affected by the mismanagement of the resources of the world's oceans, by the environmental dangers of driftnet fishing and by the threat to safe navigation;

recalling the relevant provisions of the 1982 United Nations Convention on the Law of the Sea, and in particular Articles 63, 64, 87, 116, 117, 188 and 119;

recognising that the use of driftnets as presently employed in the Southern Pacific Albacore Tuna Fishery is not consistent with international legal requirements in relation to rights and obligations of high seas fisheries conservation and management and environmental principles;

resolves for the sake of this and succeeding generations of Pacific peoples to seek the establishment of a regime for the management of albacore tuna in the South Pacific that would ban driftnet fishing from the region; such a ban might then be a first step to a comprehensive ban on such fishing;

determines, to this end, to convene an urgent meeting of regional diplomatic, legal and fisheries experts to develop a Convention to give effect to its common resolve to create a zone free of driftnet fishing;

calls on the international community to support, and cooperate in, the urgent conclusion of a Convention establishing the zone;

resolves that individual member states of the South Pacific Forum will take all possible measures in the interim to prevent driftnet fishing within their waters, and otherwise actively to discourage the operations of driftnet fishers;

further resolves that member states acting individually and collectively will take what action they can within relevant international organisations to contribute to the cessation of this harmful form of fishing;

commends the Republic of Korea for its decision to cease driftnet fishing in the region;

calls on Japan and Taiwan to follow this example, and abandon immediately their damaging driftnet operations.

Scientific Excellence • Resource Protection & Conservation • Benefits for Canadians
Excellence scientifique • Protection et conservation des ressources • Bénéfices aux Canadiens

A PRELIMINARY SUMMARY OF THE IMPACT OF THE SQUID DRIFTNET FISHERY ON SALMON, MARINE MAMMALS, AND OTHER MARINE ANIMALS

by

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INTRODUCTION

This paper was presented at a conference on the impacts of squid driftnet fisheries held at Dunsmuir Lodge, Sidney, British Columbia, July 17 to 19, 1989. Originally, it was not intended for publication. The data are preliminary and in some cases only best guesses. In addition, some of the analyses were carried out specifically for the conference and are only approximations. We are making the report available in an attempt to provide consistent information as background material for the serious problem of interceptions of non-target species in the squid driftnet fisheries. We expect to revise this document frequently and will identify each revision. Although we have tried to use all available information, we suspect some data were missed. In addition, the results of our research and observer programs will undoubtedly change some of the conclusions.

THE DRIFTNET FISHERIES

There are three major driftnet fisheries in the North Pacific Ocean. A directed salmon driftnet fishery has existed for 37 years (Fig. 1), managed through the International North Pacific Fisheries Commission and a separate treaty with the USSR. A second driftnet fishery uses large mesh for larger marine species. The third fishery, the squid driftnet fishery (Fig. 2), is the subject of this report.

The area encompassed by the squid driftnet fishery is larger than the continental United States. The northern boundary of the fishery is limited by domestic regulations to minimize interceptions of salmon. The area south of 40° is open June through December, 40° to 42°-43° is open July to November, 42°-43° to 44° is open August to October, and 44° to 45°-46° is open in August and September (Fig. 2). Vessels move north as the squid feeding migration moves north. Because the larger squid appear to move farther north, the fishery is concentrated close to the northern boundaries. Taiwan and the Republic of Korea follow the same seasonal boundary changes in this area, but also driftnet for squid on the Asian side (west of this area).

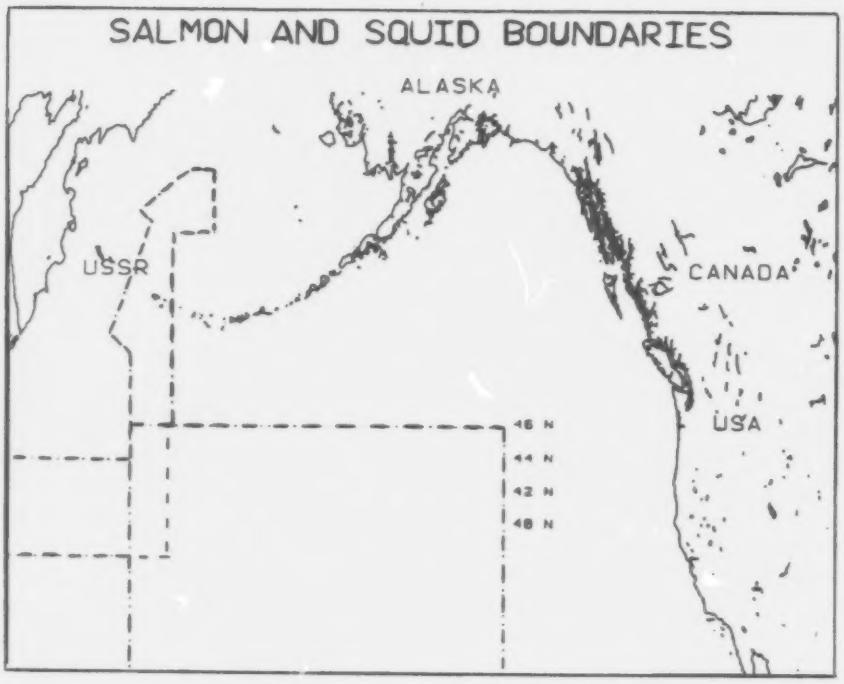


Fig. 1. Location of salmon driftnet fishery (blue) and squid driftnet fishery (red).

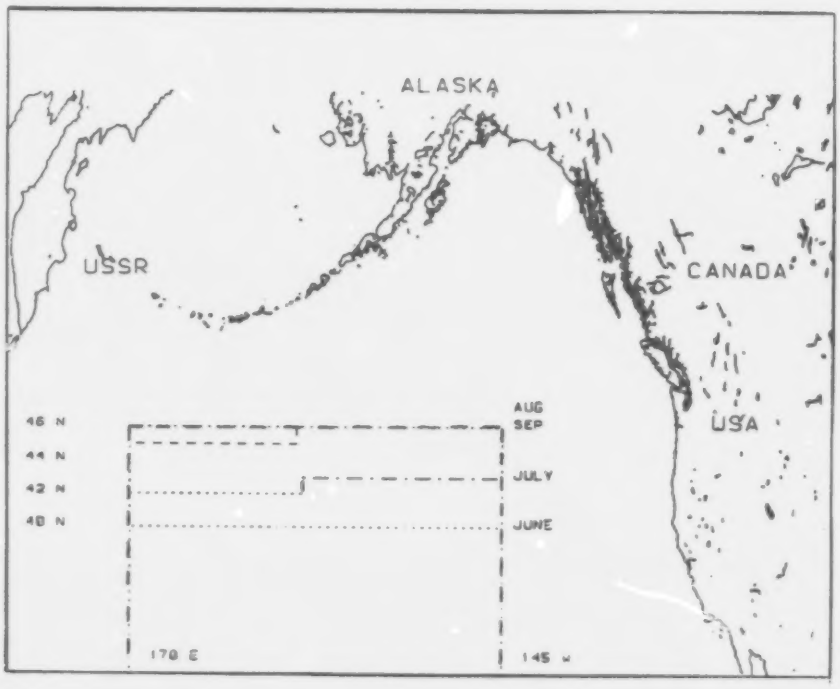


Fig. 2. Northern boundaries of the squid driftnet fishery for each month.

The high seas squid driftnet fishery started in 1978, apparently as a result of Japanese exploration following the collapse of a fishery for another squid species close to Japan and a reduction in the directed salmon driftnet fishery. The gillnet technology started in 1978 because the large size of the flying squid resulted in the flesh tearing off jigs. The high drop-off rate made jigging inefficient. Gillnets are reported to be 10 times more efficient than jigs. In 1981, Japan established two squid fishing areas. The area close to Japan is excluded to drift nets apparently to protect the catches of the jig fishermen. Only squid jigging gear is permitted in this zone. We do not know if flying squid is the major species caught in this area. The second area is the high seas squid driftnet area where only gillnets are used.

The squid are captured by driftnets which are monofilament gillnets. The net is made up of individual 50-m panels (Fig. 3) strung together to make one long net. Due to the relative sparsity of squid in the open ocean, extremely long nets must be used. The Japanese consider 15 kilometres a minimum commercial set and frequently set 35 to 50 kilometres. The average mesh size is 120-mm stretched mesh. The size of each side of a square of mesh is about 60 mm or 2 1/3 inches. Mesh sizes can vary among the participating countries within the range of 80 mm to 155 mm.

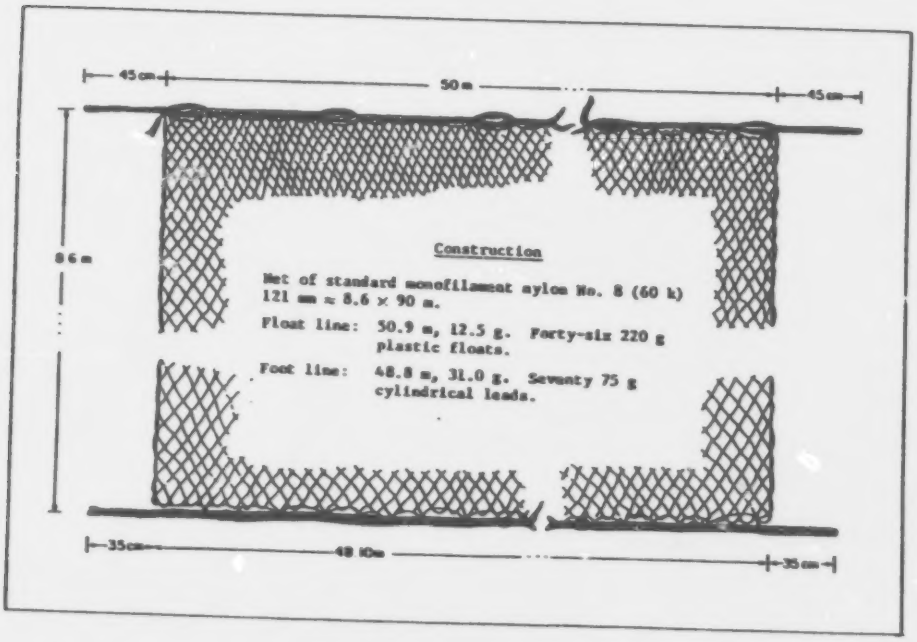

45cm
50 m
45cm
Construction
Net of standard monofilament nylon No. 8 (60 k)
121 mm ≈ 8.6 × 90 m.
Float line: 50.9 m, 12.5 g. Forty-six 220 g plastic floats.
Foot line: 48.8 m, 31.0 g. Seventy 75 g cylindrical leads.
35cm
48 Km
35cm

Fig. 3. Details of driftnet construction.

The drift net is usually set on the surface. The swimming squid encounter the net with their tentacles and become entwined while attempting to force a passage through the net. The squid then attempt to perform their normal backwards jetting escape response which results in forcing the heart-shaped fins through the net mesh and trapping the animal.

Bycatch rates are low in properly placed nets. However, the total bycatch can be large because of the substantial fishing effort. The most common bycatch is the pomfret (Brama japonica), followed by the blue shark (Prionace glauca). The latter, together with the salmon shark (Lamna ditropis), are trapped while feeding on the squid and greatly increase in number during daylight, so the nets are pulled as soon as possible after dawn to minimize loss to sharks.

As bycatch is influenced principally by water temperature, surface temperature profiles are run during the day prior to setting the net. In water above 15°C, increasing numbers of tuna will be caught and there is a high risk of encountering large schools of jellyfish which will foul the net and actively discourage the presence of squid. As salmon actively avoid warm water they will be caught in temperatures below 13° C. The ideal temperature is 14.5°C and the net is set across a thermal discontinuity, preferably in the lower isotherm.

A minimum 50-m vessel is required to accommodate the large quantity of net and allow working space on deck, as well as adequate frozen storage holds. Once surface temperature profiles have been analysed and a fishing site selected, the net is shot at 5 knots over the stern so that it is fully deployed at about dusk. At dawn, when the net is retrieved, ten or fifteen deckhands are required to shake out the net, which is then carried to the stern through a large diameter pipe while being drawn by two opposing soft rubber rollers. Five deckhands are required to flake the net on the stern deck in preparation for the next set. Damaged panels are unlaced and set aside to be mended later in the day. The catch is sorted and conveyed to the hold where it is soon eviscerated, washed, and graded by size. Squid bodies (tubes) are arranged in aluminum trays and plate-frozen to yield 13 kg blocks which are water-glazed and stored bare at -40°C. Heads and attached tentacles are similarly treated, but receive a lower price than the mantles.

Flying squid are almost entirely used as the basis for further manufacture, either dried (Surume) or partially dried and seasoned (Duruma) or as the basis for many specialty products. The preferred treatment is immediate rapid freezing and storage in blocks at -30° to -40°C to meet export quality standards. Under these conditions, squid may be held for 1 year and can then be thawed for further processing and refrozen with a shelf life of a further 6-12 months. Alternatively, if fishing is done by smaller vessels using a mother ship, squid may be held for a short time using non-contact icing with a little sea water, allowing storage for up to 2 days without drastic colour loss. External colour is the primary method of quality evaluation and is much affected by various processes. At room temperature, squid become totally unacceptable in less than 10 hours.

The market value of squid in recent years has ranged from appoximately $3.00 to $6.00 Cdn. per kg. In 1988, it was estimated that the total landings by all nations were 300,000 t. Using the price paid by the Japanese as representative for all nations, the fishery could be worth between $800,000,000 and $1,600,000,000. In comparison, the total Canadian west coast salmon fishery in 1988 was worth $258,000,000 Cdn., and the landed value of all fisheries on the west coast of Canada in 1988 was about $457,000,000 Cdn.

The numbers of vessels participating in the fishery are as follows:

Year	Japan	Korea	Taiwan
1980	-	14	-
1981	534	34	-
1982	529	60	-
1983	515	99	135
1984	505	111	153
1985	502	98	124
1986	492	117	114
1987	478	140	97
1988	463	147	166

The vessels vary in size and not all vessels fish at the same time. Most vessels are scheduled to participate in the fishery for up to 7 months starting in June.

We do not have accurate estimates of the number of vessels fishing each day. We guess that the actual number of vessels fishing each day throughout the 7 months is about 50% of the maximum possible effort. This means that the actual number of daily sets by all vessels is about one-half of the maximum possible effort. Using this estimate, in 1988, the total number of daily sets would be 82,605. If the average set is 45 km, the total annual amount of gillnet set in 1 year would be approximately 3,717,234 km, or roughly 90 times the circumference of the planet at the equator.

THE BIOLOGY OF FLYING SQUID

The biology of the flying squid is not well known. Spawning occurs in the subtropical areas from January through May. The adults die after spawning at an age of about 1 year. It is believed that some females may be a few months older but no squid are known to live for 2 years. After hatching, the young squid grow rapidly, typically 4 cm a month. The juveniles migrate northward in the early summer, favouring 18 to 20°C water. Movement can be up to 10-15 km a day. The largest squid are female, and the larger females move the farthest north. A remarkable feature of the squid fishery is that all of the catch is reported to be females. The smaller males and some smaller females remain in the subtropical waters.

The flying squid is widely distributed in the warm and temperate seas of the world, and is present throughout the Central and North Pacific (Fig. 4) and is fished extensively in the northeastern Pacific. Flying squid are active swimmers, frequenting surface waters at night, but plunging to 400 m or more during the day. At the surface they occur in schools of a few dozen to several hundred individuals. On occasion they leap out of the water and may land on the deck of the ship, giving rise to the name "flying squid."

Flying squid are voracious feeders to maintain their extremely rapid growth rate. Analysis of stomach contents indicates that fish is the chief prey. There is evidence of cannibalism, though this may be the result of fishing activities. The most abundant remains found were myctophids (lanternfish), followed by Cololabris saura (saury), while less frequent were small epipelagic squid belonging to the genus Abraliopsis. Remains of euphausiids were rarely present. The squid are in turn taken by large fish such as tuna, and by marine mammals such as sperm whales.

There appear to be two major stocks. One stock, close to Japan, has been fully exploited since 1978. Catches are reported to range from 80,000 to 100,000 t. The larger stock is in the mid-Pacific. This is the stock fished by the squid driftnet fleet. There is no estimate of an acceptable catch level for this stock.

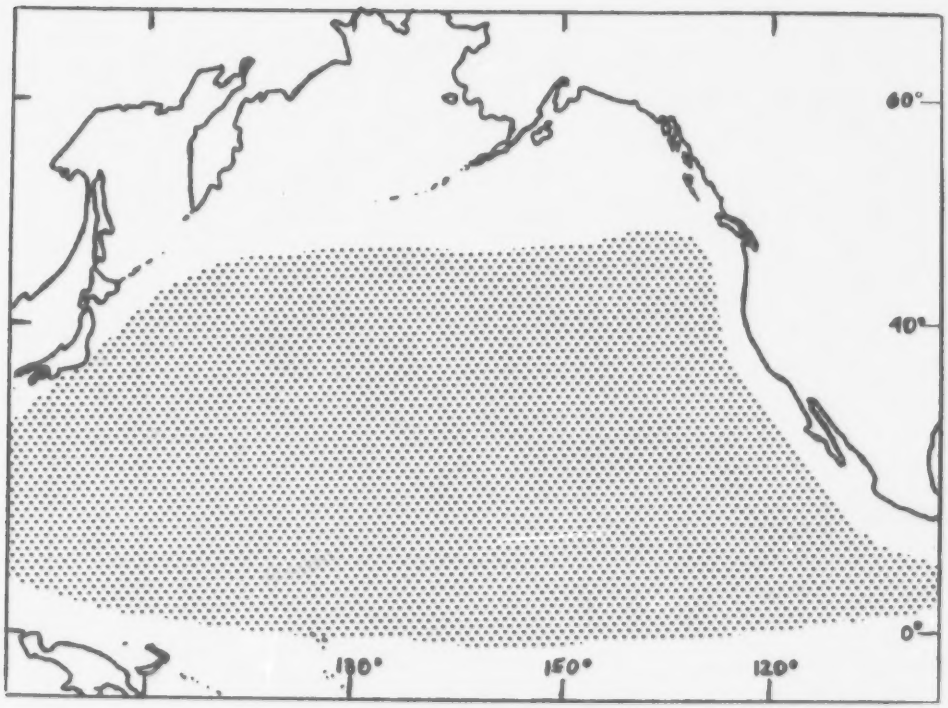


Fig. 4. Distribution of flying squid in the North Pacific.

CANADIAN RESEARCH EFFORTS

Canadian research on flying squid started in 1979, 1 year after the high seas fishery began. Initially, we wanted to determine if there was a potential for a squid fishery in the recently established 200-mile Canadian fishing zone. A number of research cruises by Canadian and Japanese vessels and some exploratory fishing by Canadian and Japanese commercial vessels was carried out from 1979 to 1987 (Fig. 5). In 1987, all squid driftnet fishing was suspended because of the high catch of marine mammals.

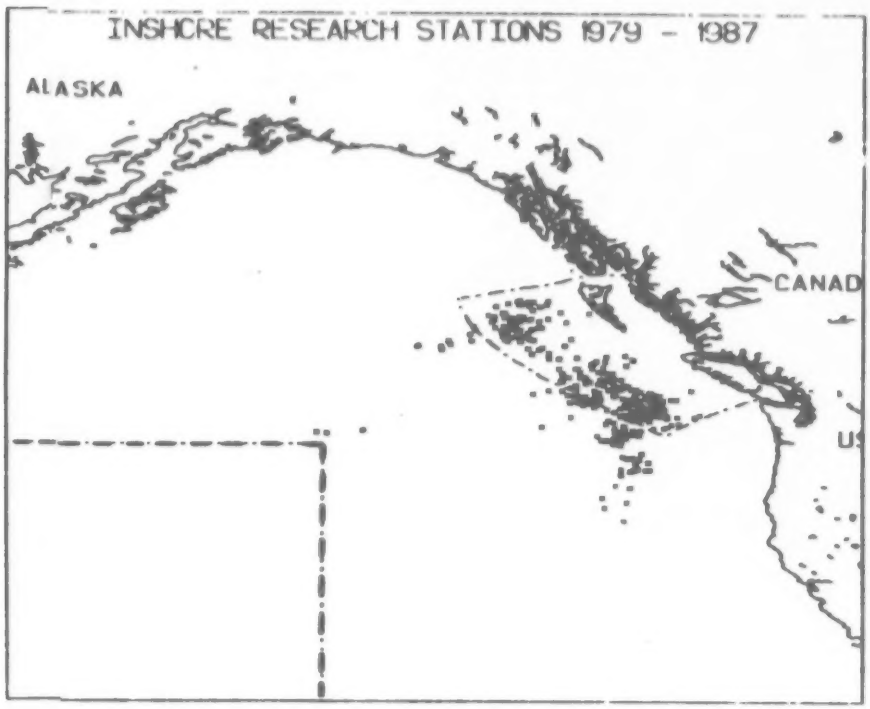


Fig. 5. Exploratory squid fishing sites in the vicinity of Canada's 200-mile fishing zone. The squid driftnet area is outlined in the lower left portion of the figure.

Since 1986, we have conducted studies in the high seas squid fishing area (Fig. 6). It is important to remember that at that time almost nothing was known about the high seas squid fishing operations. Initially, we did not know where the fleet was fishing, and were concerned that this fleet might be catching Canadian or North American salmon. As a result of the information from our research cruises on the W. E. RICKER, we began to look for other information about the incidental catches of salmon in the squid fishery. We are continuing research cruises and in 1989 are participating in a cooperative observer program with Japan.

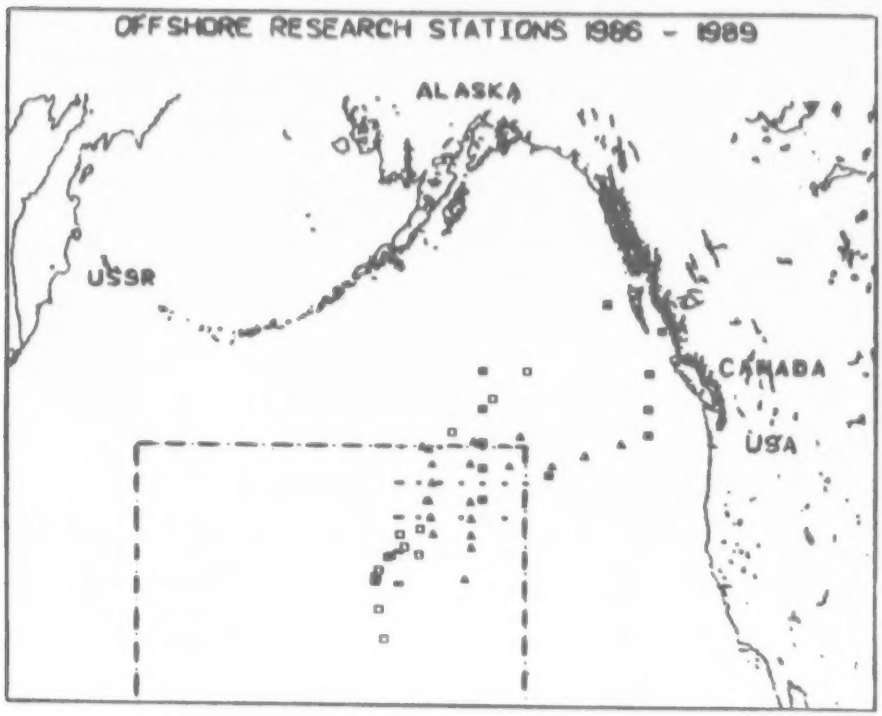


Fig. 6. Exploratory squid fishing sites in the vicinity of the squid driftnet fishery zone.

INTERCEPTIONS OF SALMON IN THE SQUID FISHING AREA

Interceptions of salmon were estimated using the incidental salmon catch rates from the Japanese and Canadian research cruises. Catch data from published and unpublished results of Japanese research cruises from 1982 through 1986 were analyzed to determine the interception rate of salmon. A total of 483 Japanese sets and 31 Canadian research sets were used. The average interception rate was 2.25 salmon/1000 m (20 tans) in July and 2.45 salmon/1000 m in August. We assumed salmon were intercepted in July and August because this is the only time the squid fishery overlaps the known distribution of salmon. We also assumed that during this time, all fishing activity is within 4° of the northern boundary for the squid fishery. Finally, we assumed that the average weight of salmon intercepted was 3 lb or 1.36 kg.

Japan reported that in 1988 they fished 6,896 boat days in July and 5,697 boat days in August. This represents 42% of the potential effort if all of the licensed boats fished every day in July and August. We also assumed that Taiwanese and Korean vessels fished a similar percentage of their potential effort in July and August. We assumed all vessels fished 50,000 m or 1,000 tans per night. Using these estimates of effort we calculated 3,316 t of salmon would be intercepted (Table 1). This estimate would be higher if interception rates were as high as 5 salmon/1000 m as observed in some catches and if the actual fishing time was underreported or underestimated. We do not believe the maximum amount of interceptions would exceed 15,000 t (Table 1).

Table 1. Estimate of salmon intercepted in the squid driftnet fisheries.

Assumptions	t	% of all-nation catch
Total number using effort reported by Japanese	3,316	0.4%
Maximum number if effort is higher and catch rates higher	15,000	1.9%
Guess of number of Canadian salmon intercepted if 10% of salmon in the area are Canadian	331	0.040%[a]

[a]Percent of Canadian catch is about 0.4%.

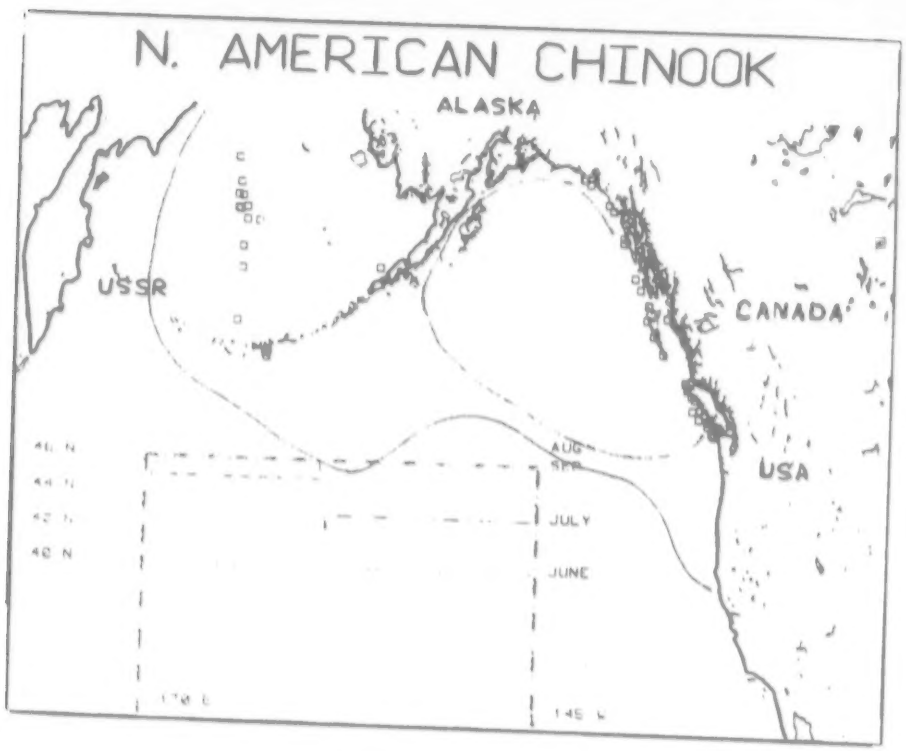
IMPACT OF SALMON INTERCEPTIONS ON CANADIAN SALMON CATCHES

The number of Canadian salmon intercepted can be determined using scale pattern analysis and electrophoresis. These determinations are currently being made and preliminary results should be available for the next revision of this report. At present, we can use the known distribution of North American salmon and some of our own tagging studies to indicate if Canadian salmon could be intercepted.

The known distributions of the five species of salmon and steelhead have been identified for Canadian salmon (red) and Canadian and United States salmon (blue), in relation to the squid fishing area (Fig. 7). These distributions indicate that it is unlikely that Canadian chinook, coho, pink, and chum salmon would be intercepted. There could be some Canadian sockeye intercepted and there would be interceptions of Canadian steelhead. Because many of the salmon used to determine these distributions were not tagged in the squid fishing area, it is possible that the distribution maps do not indicate the exact range of Canadian salmon. The maps do indicate that the maximum densities of our salmon are well north of the squid fishing area.

Fig. 7. Known distribution of North American salmonids. Area within red zone is known distribution of British Columbia salmonids; area within blue zone is known distribution of Canadian and U.S.A. salmonids. Each square indicates the release location of a tagged salmonid recaptured in Canada or the United States. Squid driftnet fishing area is indicated by the dashed red line.

A.



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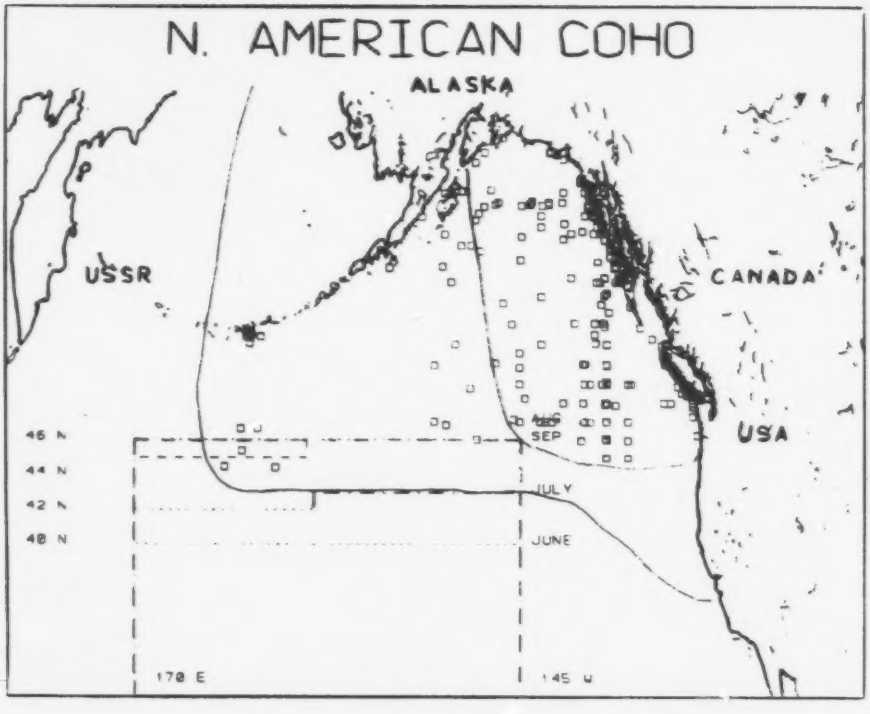
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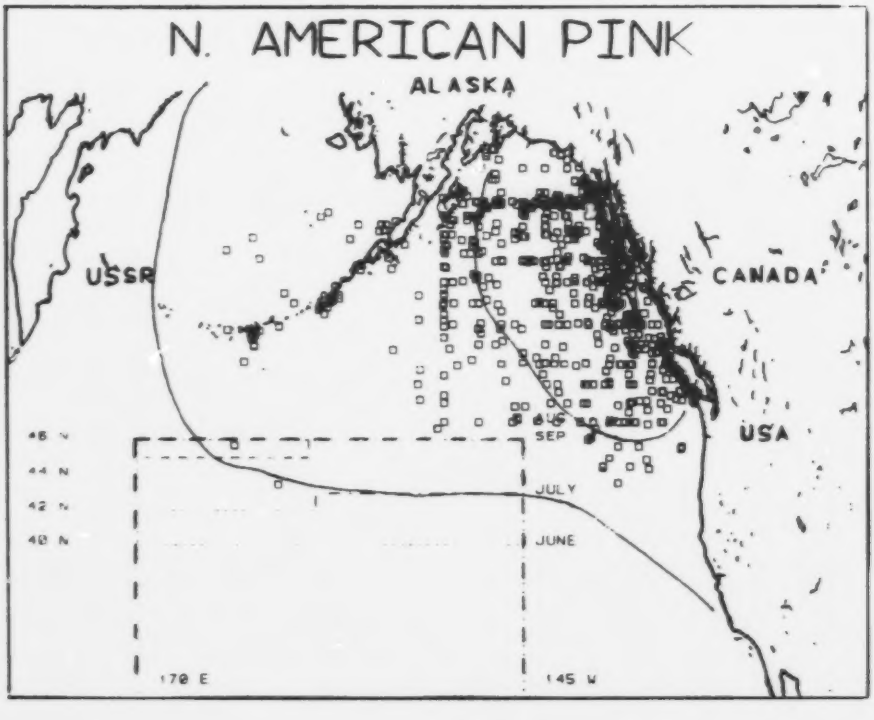
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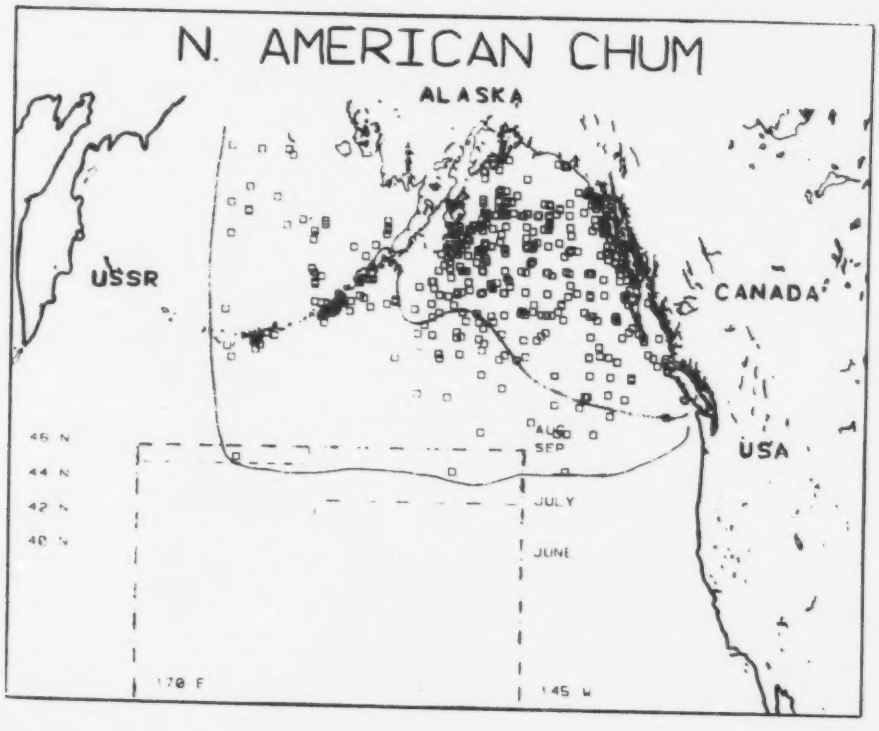
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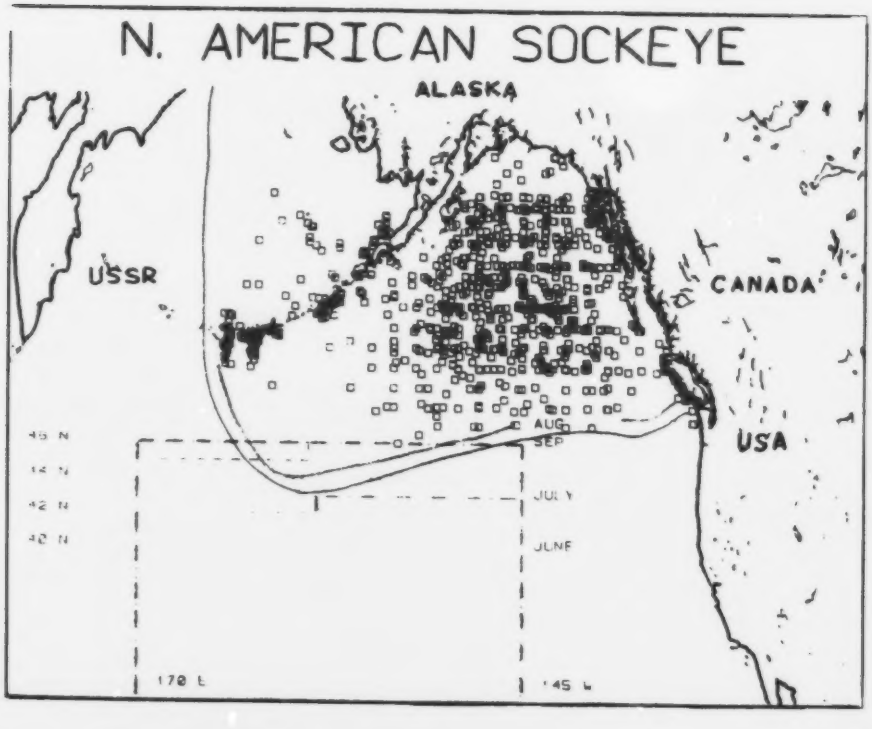
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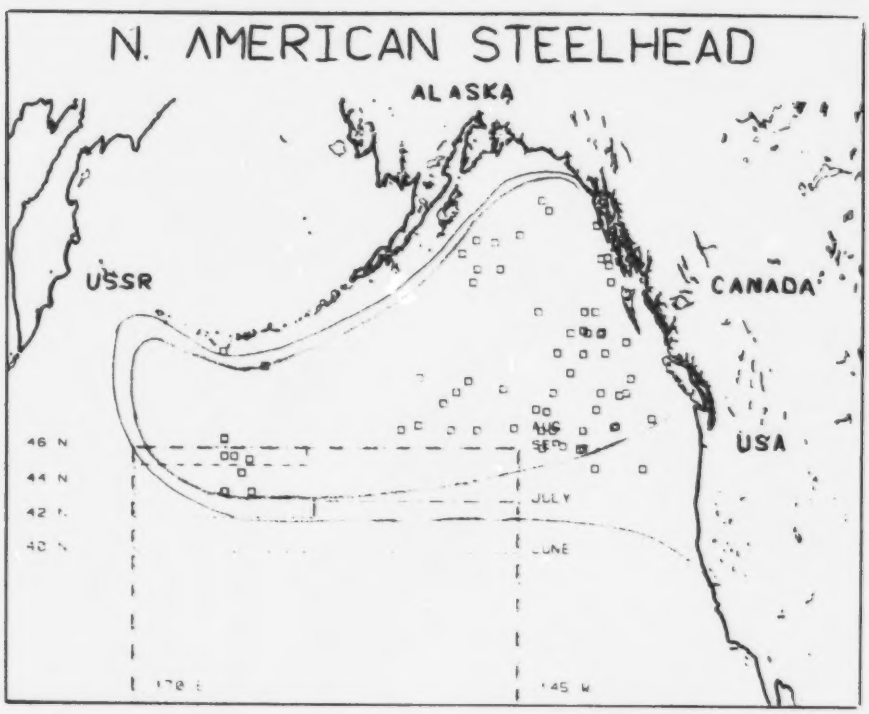

In 1987, we tagged 609 salmon on our W. E. RICKER research cruise. Nine of these salmon were recaptured, one chum in Japan, five pink in Alaska, and three steelhead in North America (Fig. 8). One of the steelheads was recaptured in a Canadian fishery and possibly was of Canadian origin. The results of this tagging study clearly show there are both Asian and North American salmon in the area of the N.E. boundary of the squid fishing zone. Because there are relatively few chinook and coho salmon in Asian rivers, we suspect these species would be of North American origin. We also suspect the sockeye would be North American because they were close to the N.E. boundary of the fishing area.

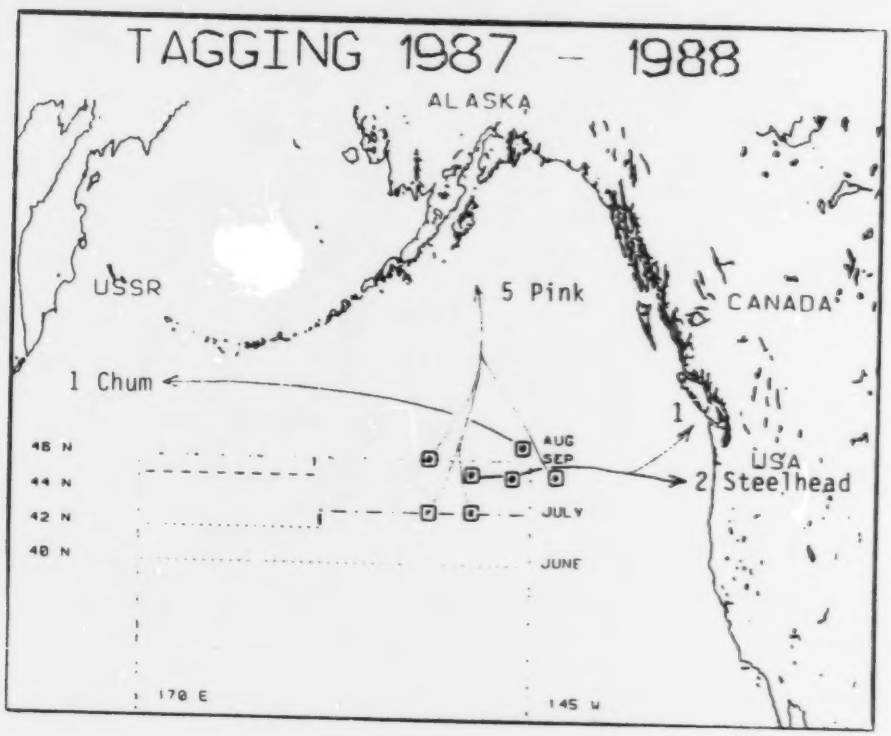

Fig. 8. Recapture of salmonids tagged during the 1987 W. E. RICKER cruise. A total of 609 salmonids were tagged; 216 chum, 241 pink, 36 coho, 28 steelhead, 84 sockeye, 4 chinook.

No salmon have been caught in the ocean where water temperatures exceed 16°C. Using Japanese research data we showed that salmon and squid distributions are almost totally separate in temperatures greater than 15.5°C (Fig. 9). The occurrence of salmon in sets increased as the temperature decreased. Because the northern boundary of the squid fishing area was established to correspond to the 15°C isotherm, we would not expect large numbers of salmon to be in this area. When the ocean is cooler than average, some salmon will be in the vicinity of the northern boundary and it is these salmon that would be intercepted by the fishery.

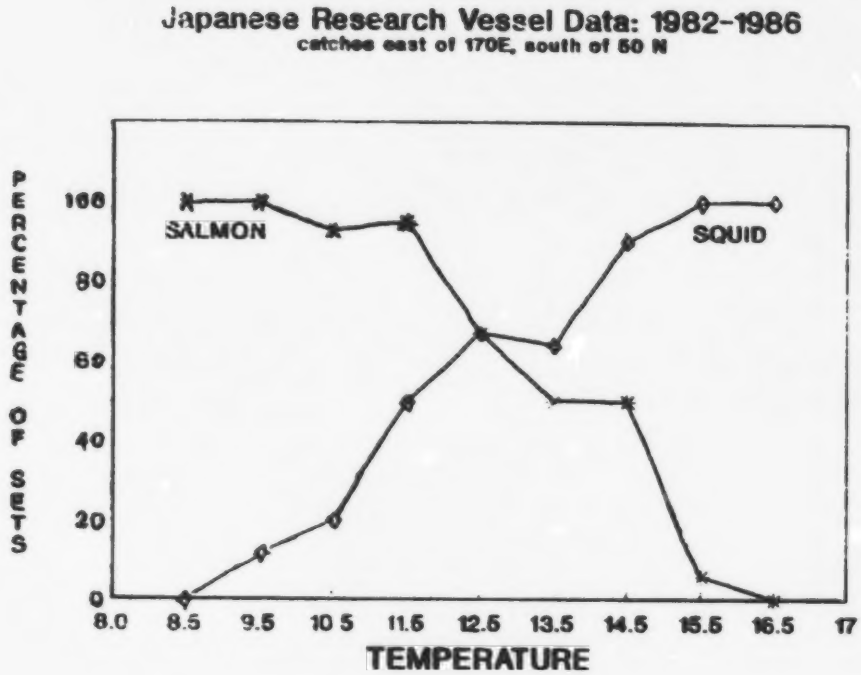

Fig. 9. Incidence of at least one salmon capture in one set (1,000 tans) in relation to sea surface temperature.

We conclude that it is unlikely that large numbers of Canadian salmon are intercepted by vessels fishing within the boundaries of the squid fishery. However, there are some salmon intercepted. To understand the relative importance of these interceptions, it is useful to know the amount of salmon caught in other fisheries.

Salmon are caught by Japan, USSR, U.S.A., and Canada (Fig. 10). The combined catches currently are close to the historical high levels of almost 800,000 t (Fig. 11) caught in the late 1920's and early 1930's. It is interesting that the species composition of the recent catches is similar to catches in this earlier period (Fig. 12). Canadian salmon landings are also at historic high levels (Fig. 13). Average salmon landings were approximately 75,000 t for almost 50 years (Fig. 13) but in the 1980's landings are averaging about 80,000 t. An interception of 3,318 t is 0.4% of the all-nation landings. It appears, therefore, that salmon interceptions in the squid fishery are relatively small.

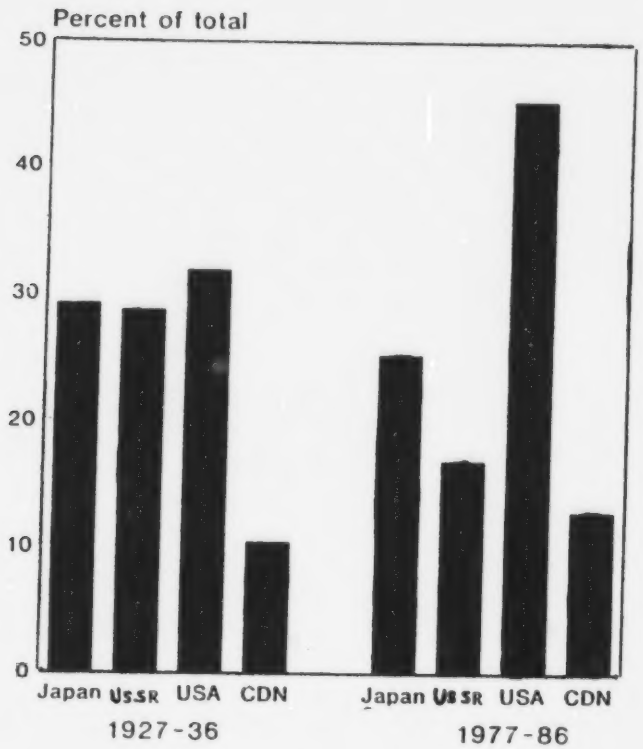

Fig. 10. Historical salmon catches by country, based on landed weights.

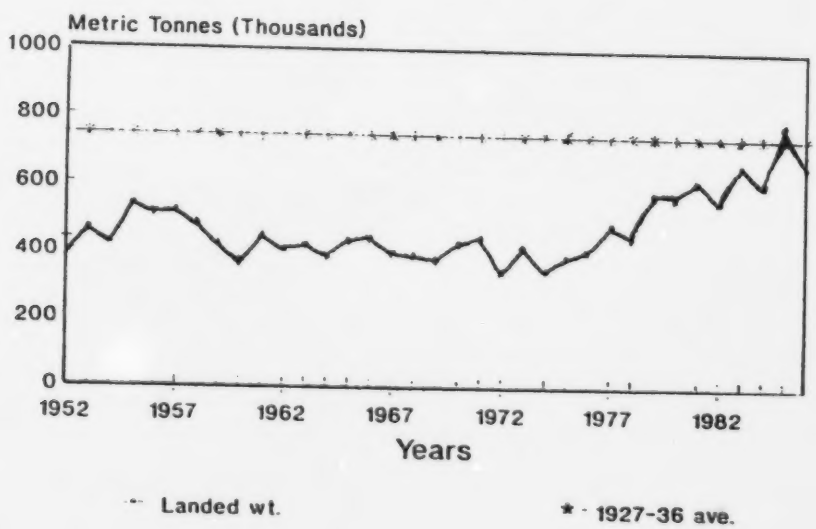

Fig. 11. Salmon catches in the North Pacific Ocean by all nations (1952-1986).

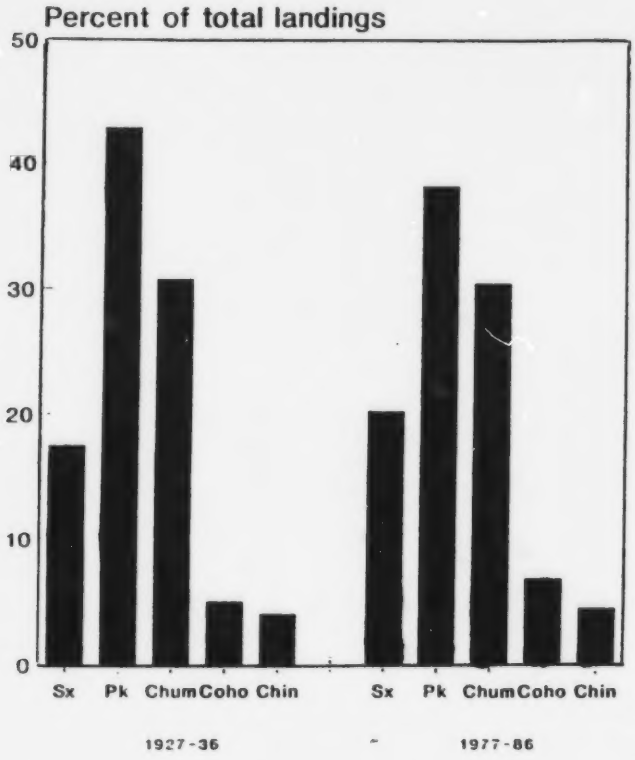

Fig. 12. Historical catches by species, based on landed weights. Sx = sockeye; Pk = pink; Chin = chinook.

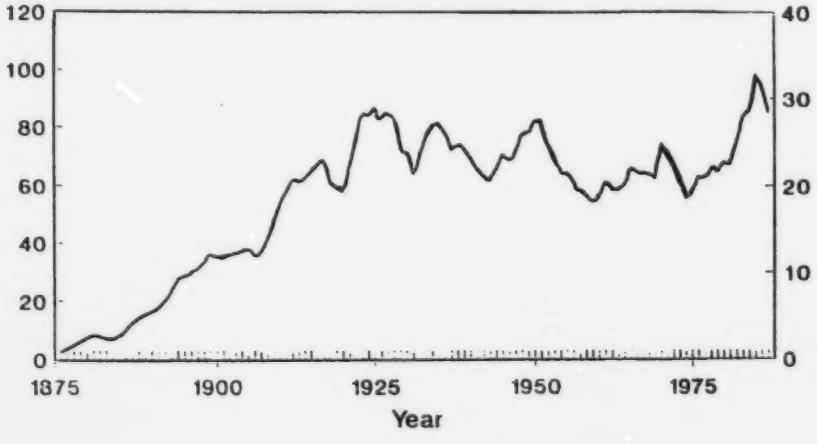

Fig. 13. Historical Canadian catch of salmon from 1876 to 1987 in metric tonnes (thousands). Data plotted as 4-point moving average.

As previously stated, we cannot estimate the number of interceptions of Canadian salmon. If guessing is required, we could estimate that about 10% of the salmon in the high seas are Canadian and possibly 10% of the interceptions are Canadian. This would indicate about 331 t or about 0.4% of our catch are intercepted. It is known that the so-called "illegal" salmon fishery, north of the squid fishing area, catches North American and Asian salmon. The amount of salmon intercepted is unknown but is guessed to be as high as 40,000 t.

MARINE MAMMAL AND MARINE BIRD INTERCEPTIONS

We estimated marine mammal interceptions (deaths) in the same manner as we estimated incidental catches of salmon. Calculations were based on fishing effort data and data collected by United States observers on squid fishing vessels. These observers recorded 111 mammals in 63 driftnet sets or 1.76 mammals per set. Japan reported a driftnet effort in 1987 of 29,613 sets with 478 vessels licensed. We considered 166 Taiwanese vessels and 150 Korean vessels fished in 1988. The combined effort was 316 vessels or 66.1% of the Japanese effort. Using the combined effort for all nations, we estimated the following interceptions.

	Estimated number of interceptions	Estimated population size
Dall's porpoise	6,245	1,400,000-2,800,000
Northern right whale dolphin	50,718	500,000-1,000,000
Pacific white-sided dolphin	14,825	500,000-1,000,000
Northern fur seal	14,045	1,000,000
Striped dolphin	780	500,000-1,000,000
Total marine mammals	86,613	
Total marine birds	750,000	

The population sizes are considered to be good estimates only for Dall's porpoise and northern fur seals. The other estimates are simply guesses. It is beyond the scope of this report to analyze the impact of these removals on the populations. We expect to include this assessment in the next revision.

Our estimate of 86,613 deaths is higher than numbers reported by others. These other reports averaged about 50,000 animals and appear to be guesses based on the same data we used. There is one Japanese estimate of 3,000 Dall's porpoise killed in the squid driftnet fishery. Although our estimate of 6,245 may seem to be much higher than the Japanese estimate, given the scarcity of observations available at this time, the two estimates should be considered to be quite close.

We know that 13 species of birds are captured in the squid driftnet fishery. The most common bird captured appears to be shearwaters. Two species of shearwaters may comprise 50 to 75% of the catch. The estimate of 750,000 is very preliminary. Another study estimated 400,000 birds were killed annually. The impact on the populations is difficult to assess at this time. It is believed that the total population of one of these species of shearwaters is about 20,000,000.

POMFRET

The most common fish caught in the gillnets is pomfret. There are no accurate estimates of the amount of pomfret captured because it is always discarded. Apparently the price for pomfret is substantially lower than squid. Using our research cruise data we estimate that pomfret and squid are caught in about equal numbers. If this is true, then about 300,000 t of pomfret are caught and discarded. If a pomfret weighs about 2.0 kg, then about 150,000,000 pomfret are discarded. Pomfret are relatively short-lived, fast growing fishes. Very litte is known about their biology, but our research indicates that most fish in the fishery are 2 or 3 years old. The fast growth rate and large number of discards suggest that pomfret are abundant.

At least one of us (R. J. Beamish) considers pomfret to be one of the best tasting fish available. If pomfret is marketed in North America and becomes popular, we may expect that the high seas driftnet fishery will become even more profitable (assuming squid catches are maintained).

THE FUTURE

It is important to recognize that the central North Pacific Ocean is a feeding ground for a large number of marine animals. Salmon, walleye pollock, squid, and pomfret are abundant. In fact, some of the largest fisheries in the world occur in the North Pacific Ocean, including the Bering Sea. The walleye pollock fishery that now lands up to 7,000,000 t annually is the largest fishery in the world. Countries participating in this fishery are now concerned about possible overfishing. With salmon catches at historic levels and major enhancement planned by many countries, biologists are concerned about the carrying capacities for salmon in the North Pacific

Ocean. This is an important problem because some countries have ambitious enhancement programs. For example, the USSR expects to produce 500,000 t of pink and chum salmon by the year 2000. The flying squid fishery should concern the countries involved because it is unknown if the current catch is sustainable and the catch is almost entirely female.

A final concern is the changing climate. There is evidence that the planet is warming (Fig. 14). There are predictions that there could be an increase of 1°C of average sea surface temperature between now and the year 2000. Because we know very little about some of the species in the mid-Pacific and even less about the community interactions, we feel there is a need for more high seas research. Such research is of importance to all countries because changes in the abundance of some species will affect the dynamics of the high seas fish communities. The possibility of a major change in climate within 10 years means that there is some urgency associated with this need to understand the general ecology of the mid-Pacific Ocean.

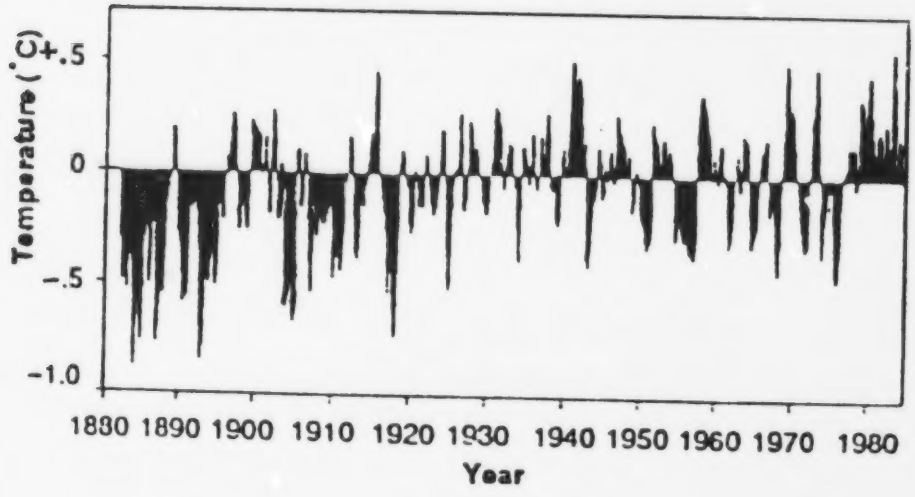

Fig. 14. Annual deviation from the mean monthly temperatures over continental areas 0-25° N. Deviations show alternating cold and warm years and an overall warming trend over past century. Note the absence of a cool period since 1976. Data from R. Bradley et. al. 1987. Nature 327: 497-501.

THE UNITED STATED FEDERAL POSITION

(Transcription from Statement)

MR. PENNOYER:
Regional Director for the National Marine Fisheries Services,
Department of Commerce, Nome and Juneau, Alaska

I am glad to participate in discussions that involve all west coast fishermen, and concerned people across both the United States and Canada, about the expanding high seas driftnet fishery.

This is not exactly a new topic for us. As early as the early 1930's the fishermen in Alaska saw Japanese high seas gillnetters appear off of Bristol Bay and got their first dose of what the problem might be in terms of interception of resources important to the State of Alaska and the United States.

The Japanese-directed salmon fisheries expanded dramatically after World War II, even though they had existed off Kamchatka for a considerable period of time, fishing on Asian stocks. In 1952 the three nations, Canada, the United States and Japan, entered into the International North Pacific Fisheries Convention to regulate the Japanese driftnet catches of resources important to the United States. It did so by creating an extension line in the middle of the ocean, which didn't adequately do what we thought it was going to do, separate North American and Asian salmon. For the next 26 years the Japanese fleets continued to intercept 5-10 million U.S. salmon a year and that is, even with poor reporting and difficulties in identifying continent of origin, a very substantial take.

Little change occurred until 1978 when the extension of jurisdictions by our countries forced the re-negotiations of the INPFC to move the Japanese fleet 500 miles to the west. Re-negotiations of 1985/1986 started to phase out the Japanese-directed salmon fishery in the central Bering Sea. A combination of these activities reduced the interceptions 80+% but they are still taking fish. Initiatives between the U.S., Canada, and the U.S.S.R. continue to reduce that fishery.

The presence of a major squid resource has been known for some time. The Japanese have been taking them with jigging vessels, and as the quotas crank down on the directed salmon fisheries and the vessels and gear look for somewhere to fish, it was found that the squid could be taken quite effectively, cheaply with the same vessels using the same gillnets used to take salmon and that is the start of how this driftnet problem we are looking at now evolved.

We have nearly 800 vessels of the three countries, Korea, Taiwan and Japan, now engaged in these fisheries. They take by-catches of salmon, steelhead, marine animals and sea birds and we also are facing the emersion of a directed illegal harvest of salmon.

Provision was made for program expansion in 1990. There were two distinct pieces to this. One was a pilot program with a broader brush distribution throughout the fleet; 10 vessels with 5 North American and 10 Japanese observers to assess the variability of by-catch during the period of June to December. The second part was 22 vessels with 9 North American and 22 Japanese observers to assess impacts on salmonids and other species in the northern boundary area, the extension the Japanese told us they were going to do of the driftnet fishery in July and August.

A significant amount of data is to be collected and not restricted to salmon only. It includes sea birds, includes marine mammals, all forms of by-catch, as well as data on the directed fishery. Japan has also agreed to deploy two driftnet research vessels, accepting the participation of U.S. and Canadian scientists on board one of the vessels.

In terms of enforcement, Japan has doubled its off-sea patrols in 1989. Japan is also providing weekly vessel location data and has mandated a net mesh size restriction, with at-sea catch transfers prohibited. They agreed to provide vessel surveillance of Japanese off-loading ports with documentation of which vessels were off-loading and when. Penalties for vessel violations were increased and they agreed to monitor the driftnet activities of other countries, particularly the Taiwanese problem. Japan has agreed to consider employing satellite transmitters in 1990 depending on tests conducted in 1989 on U.S. boats and in the Taiwanese fleet. Japan's large mesh driftnet fishery are agreeing to accept placement of U.S. scientists on a Japanese research vessel. Japan has indicated the expansion of regulatory and research control in 1990, but there is nothing definitive yet.

The American Institute in Taiwan reached a driftnet agreement with the authorities of Taiwan on June 30th. When the Japanese started to get serious about the observer and driftnet agreement program, Taiwan did as well. A referendum agreement was reached. "Agreed to place, at no cost to the United States, automatic real-time vessel location devices, transmitters, on Taiwan commercial driftnet vessels, 10% coverage in 1989 and 100% coverage in 1990."

The Taiwanese Agreement ends up being more than an enforcement agreement. As far as observers go, there will be a deployment of one scientific observer in 1989. There is some concern about how U.S. observers - or North American observers - are going to fare on Taiwanese squid driftnet vessels. The agreement requires all permitted resources harvested by Taiwan driftnet vessels, except tuna, to be landed in Taiwan with strict restrictions and FC transfers to transport vessels to pin down where and then they are off-loading.

Two years ago, in negotiations with the Taiwanese, they accepted the Japanese boundaries for their squid fleets. The problem is that was a paper agreement and there was no ability through their central government to enforce or patrol the activities of their vessels. Taiwan is to start introducing enforcement patrols in 1989.

DR. DOAHLBERG:
Ake Bay Laboratory of the National Marine Fishery Service

The area involved in the squid driftnet fishery is mainly in the Japanese domestic regulated area. There has been an adjustment in the 1989 boundary by Japan, moving it further north in July and August. The Taiwanese boundary of 39 degrees northwest of 170 east has been in effect for several years.

One of the real problems that we have is identifying the amount of fishing effort. In 1982 we got some information from Japan but it is difficult to pin down the amount of fishing effort taking place in the North Pacific squid fisheries. It has been reported generally in terms of vessel days over the years. The thing we need to know are the number of units of gillnet actually being fished each time period. Vessel days will give you some identification of fishing effort, but it is difficult to pin down the amount of gillnet that's actually being fished.

Our fishing effort trend there is increasing rather rapidly. The amount of gear fished per vessel has also increased rapidly. The combination of increasing vessels and increasing gear deployed per vessel has caused the increase in recent years.

Taiwan has shown a trend that's slightly different but the number of vessels has increased in the last year. Taiwanese gillnet loaded aboard vessels has shown an increasing trend with more vessels fishing more gear in both fleets.

In the Japanese squid fishery, the trend had been more static. However, the vessel classes in the larger category have increased over time. The Japanese fleet consists of five different vessel types, with smaller catcher boats from the mothership fishery that re-rig for gillnetting squid in August and larger vessels that carry even more gear.

The squid fishery is very significant in the amount of squid taken on the high seas and at the moment is approximating 300,000 metric tons. Our observer last year on a Korean vessel indicated he was told that Korean captains were making $40,000-$50,000 a year. You are talking of a $550-$600 million fishery.

The problem is getting factual information on the operations. The United States has placed three observers on commercial vessels. In 1982, an observer monitored 11 operations on board a Japanese commercial vessel. In 1986, another observer on a Japanese commercial vessel watched 30 retrievals in 34 days, including 75 marine mammals taken. On the Korean month long cruise, the observer watched 21 retrievals. In 63 retrievals we have observed one pink salmon head.

Last year the Korean vessel fished in 15 to 20 degree water temperatures where you would not expect to find any salmon. The difficulty in placing observers is we have no control of the vessels and where they fish. Squid catches were quite high in the Korean vessel; albacore catches were also significant.

Another difficulty is in placing vessels in areas of interest to scientists and we have had little or no control. The idea of chartering a commercial squid vessel is one approach but the cost is prohibitive.

We've had salmon caught by research vessel operations in areas along the northern boundary, but the difficulty there is in extrapolating accurate data. In order to get good estimates of by-catch of any species we have got to place more observers on actual commercial fishing vessels.

MR. PENNOYER:

There has been a major increase in patrols of high seas gillnet areas by the U.S. Coast Guard with enforcement agents of the National Marine Fishery Service on board. There were a number of boardings and in one case, after a chase through the fog, a Taiwanese vessel was pulled over, people got on board, but there were no fish. There weren't any squid, there weren't any pollack, there weren't any salmon, but there were salmon scales and the Coast Guard boarding officer collected chum and sockeye scales throughout the boat; they were obviously fishing salmon.

A second Taiwanese vessel was sighted out of area, chased and during the chase was dumping fish overboard, which is on videotape, about two tons, with five salmon still on board when the Coast Guard boarded the vessel. So, there is a definite link to Taiwanese fishing vessels fishing out of area in various degrees and locations north of the boundary and east of the boundary. The Japanese vessels, the Northern and Eastern, were up in areas that they told us are squid.

As a result of concern over driftnet interceptions and killing of U.S. origin salmon, marine mammals and sea birds, Congress passed the Driftnet Act in 1987. The Driftnet Act requires the Secretary of Commerce, through the Secretary of State, to negotiate agreements with countries conducting high seas driftnet fisheries that take U.S. marine resources in the North Pacific Ocean.

The Act calls for an adequate Monitoring and Assessment Agreement, an adequate enforcement agreement of regulations on high seas driftnet fleets, and report to Congress, the first being the status of the U.S. negotiations and the impacts of the driftnet fisheries.

The United States and Japan reached a Driftnet Agreement on June 23rd, 1989. The Driftnet Act jurisdiction originally started under an INPFC-related discussion relative to the marine mammal permit that the Japanese were seeking. An agreement was worked out to have a pilot observer program starting this year to look at distribution of catches in the Japanese squid driftnet fishery. As they didn't get their marine mammal permit, they initially refused to honour that pilot observer program. The Japanese had requested to convert their directed mothership fishery to a land-based fishery and as a reason for discussing that was the inclusion of observers in the squid driftnet fishery, and both Canada and the United States tried to talk to them on that. On June 23rd, 1989 the cooperative agreement was reached.

GHOST NETTING AND PLASTIC DEBRIS

(Transcription from Statement)

DR. ALVERSON:

My topic is ghost netting, or really marine debris, with emphasis on ghost netting. I would like to first sort of canvass the whole marine debris issue in a very cursory fashion, talk a little bit about marine debris and its origin in the high sea driftnet fisheries and the consequences, and that will include both ghost netting and other types of damage assessments that people have perceived.

By definition marine debris is stated to be any man-made materials, whether they be wood, metal, plastic, etcetera, that end up into the ocean environment. I think all of us are aware that various types of marine debris are common throughout our ocean environment, on our beaches, but also found in our sediments, on top of the sediments, within the sediments, in the sea bed and in the sediments of the sand and the beach areas.

Marine debris generates a variety of problems from the simple aesthetic problem of going to the beach and saying that is an ugly looking place; the fouling of vessels, and fouling of intakes in vessels themselves; the problems of impacts on wildlife, fish, etcetera, in terms of mortalities imposed and in terms of types of fishing; indiscriminate fouling of entanglement of animals after the gear is lost at sea. It is not confined just to fishing gear.

Where does it come from? Obviously a large part of it comes from the effluent dumped into our rivers, marine transportation and the various world navies operating in the world's oceans. Recreation and commercial fishing have a major part, particularly in the North Pacific.

It is important we identify the fisheries we have heard today. High seas gillnetting is not of recent origin and goes as far back as the 1800's, even probably beyond the so-called exclusive economic zones of nations today. The ones that we are familiar with are the salmon gillnet and squid fisheries of the North Pacific. You have the large mesh high seas driftnet fisheries that target on billfish and on tunas. They are both in the North Pacific and South Pacific. We have some shark and swordfish fisheries that extend beyond into the EEZ, out of the United States and from other countries.

Most of these gear types, although they may differ in length, are similar to the types of gears traditionally fished within the EEZ in terms of driftnets and are shorter in length, but are operationally and tactically the same types of gear fished inshore.

In terms of quantities of gear that may end up in the marine debris column, Eucheta made an estimate several years ago that it was somewhere in the vicinity of about 30,000 nautical miles of high seas gill. I suspect that is short of the actual figure and may well be 45,000-50,000 nautical miles of webbing. One report from a Japanese scientist states that in some of the high seas gillnet fisheries you can expect a 100% loss of gear in a year, not necessarily all into the environment, but repaired, rebuilt, etcetera, and parts of that could end up into the marine debris column. How accurate those observations are I don't know, but it is apparent that there is high annual repurchasing and rebuilding of gillnets.

How does it get into the system? Well, obviously it gets into the system in two ways. One, it is lost; storms break it loose. There is also a lot of repair material that, in the past, probably was discharged purposely into the environment. There has been a major effort on the part of the U.S., Canada, Japan, Taiwan, and Korea, in terms of maintenance of that gear over the past few years so the discharge portion is now declining.

What then happens as a result of the drift into the high seas area? We have the types of damages that we have already heard about; we have the ghost net fishing problem, when nets are broken loose and continue to fish, and fish and marine mammals and birds entangle. How long that actually happens in the large driftnets is obviously another question. Some observations have stated that they will operate in a reasonably effective manner from two to three weeks. My guess is that the concern over the by-catch in the marine debris form is a small percentage of the problem that occurs when they are in the actual fishing form. The actual fishing process and the daily resetting of the nets is a much, much higher fishing generating machine than that taken in the by-catch area. If the nets actually sink and secure on the bottom they may fish much longer. Sunken gillnets have been found to fish three to four years.

If you look at the frequency of marine debris in the oceans, driftnets in the North Pacific probably account for about 53% of the observed material from ships at sea. Trawls are the largest other component. The only other identified component suggests that the people making the observations don't have the skills to differentiate between lost pot material, lost seine material and other types of fishing nets that must have some fraction within the marine debris environment, but unaccounted for in the figure.

If you look on the beaches, the opposite occurs. Even as far south as Hawaii the trawl webbing accounts for the greatest proportion of webbing documented on the beaches and I suspect there is a reason for this in terms of perishability and sightability of smaller mesh nets which are easily buried and disappear from the system.

I was out at Neah Bay and I walked the Macau Beach, which is roughly one mile long. I found 27 pieces of trawl webbing; I found no pieces of gillnet on the beach. Observations by scientists are probably true, that in the beach environment the high seas nets don't show up very often.

We have all the problems in terms of fouling vessels. Whether these are as large as they are for other types of gear, I don't think so. There is more fouling in trawl nets than there is driftnets because the trawl nets are so much stronger and likely to cause more damage if they get in a screw. Most of the larger vessels will probably cut through the gillnets.

The only documented evidence of significant impacts on marine mammals is that on fur seals, and comes largely from stronger trawl webbing, although there are observations that the gillnets are ubiquitous and throughout the ocean. I suspect there is more damage than documented, but at least in the existing literature I cannot find where high seas gillnet constitutes the problem that is stated for trawl gear in the Hawaiian Islands. Even on the coral heads there appears to be much more trawl webbing ending up than does inshore.

Ghost netting is obviously a problem. More of a problem is the sunken gillnet forms than the driftnetting forms, which ball and get out of the functional fishing activity quickly. If you look at all these stated types of damages, they are not any different than the types of observations that you see for everything we use inshore. I equated the Beamish, 3-5%, probably 2-5%, by-catch, and that's small in terms of the by-catch you see in some inshore types of gears.

I think the question I am posing is that we need to start quantifying damage assessment. The majority of the types of observations that were being made were talking about transfer of economic loss. Somebody is stealing my fish. They were not talking about fishing gear "that is very damaging". I think the damage function goes far beyond that, but that was the keynote. The best documentation I have seen in the literature is that put out by PSPA. There is no doubt there is cheating. That is not a condemnation of gear; you can cheat with any gear, inshore/offshore, etcetera.

We are talking about biological loss in general. The net, whether it is in a marine debris form or in a functional form, is catching some marine mammals, is catching some non-target species and is generating a mortality on that animal that is in addition to the normal fisheries. So, you have that general loss. It is not an economic loss, but is one of aesthetics or our concern, the conservation of the animals themselves. They are important, but they are just a general-type described loss.

Then there are the biological type of activities like the net continues to fish salmon. There is a drop-out problem, that changed the biological yield that obviously occurs in salmon. We know it is not effective fishing gear in achieving the maximum yield that we can. If you did not have drop-out you would increase the yield. High seas salmon fisheries fall into that category and we can define that as a logical consequence that is damaging and should be stressed.

Impacts on the long-term productivity, in terms of impacts on marine mammals, on sea turtles, etcetera. There is almost no data, with the exception of what happens in trawl gear, that suggests, in the passive form, as having any long-term impacts on these animals. In the active form I suspect that some of the marine mammal catches may be dangerous. There is enough inferential evidence to suggest it is an unacceptable level in some of the high seas fisheries, but we don't know as yet.

Other types of transfer of economic benefits may be either direct, may be theft. Some of the nets on the high seas generate a larger problem in terms of the quality as another consequence of high seas fish netting. They sometimes occur in inshore fisheries, and in albacore there may be a decline in quality. There may be changes in behaviour. I have not seen that. It has been suggested, in terms of the large cetaceans. Ecological adjustments have been brought up and aesthetics. These last three are more difficult to define in any sort of accurate way in dealing with what is going on.

Are we saying the gear is damaging and is excessive because it's long, because there is a lot of it? I think then you have to identify the spectrum of needs in terms of factual information you need to develop there. Governments are going to come to a decision, and one might hope that there is more fact than emotion in the final decision. I bring to your attention that there is almost three times as much gillnets used inshore as there is offshore. Three times as much gillnets fishing within the EEZ's in the North Pacific than there are in the high seas fisheries.

If you're going to go through this process of condemnation you better get the data because somebody is going to come and start looking at those gears. I told you I walked the Macau Barrier. I went out and watched them pull the set nets in the area. I saw 47 birds in one shackle! Now, our gillnets catch marine mammals, our gillnets catch marine birds, our gillnets catch by-catch and have a drop-out problem and have a by-catch problem. I don't think they are as bad as far by the offshore fisheries, but that needs to be documented. We have almost no accountability and I think that is the big issue on the high seas. Lack of accountability to the people carrying out the fisheries. We don't have an information base. We have a much better information base of what is going on inshore.

We have quite a bit of information that says they are catching marine mammals, they are catching a by-catch of sea turtles, they are catching a by-catch of birds. We cannot very well translate that into impacts at a population level or rate. There is very little information with the exception of the salmon fisheries where there is a better estimate of its consequence both to the directed and undirected fisheries. We have almost no information on the mortality rates imposed as they relate in many instances to the directed fisheries, but also to the by-catch fisheries. We need that sort of information.

Now, I told you there is almost three times as much inshore gear used as offshore gear, but I expect if you equated it to actual fishing activity within a year, that the offshore effort is a lot more than the inshore effort. Ultimately we have to translate that into impacts at a population level. I don't expect you to wait until all the information is in. Management and science are two different issues. Management makes decisions on the basis of the best information available. It is probably adequate to generate a decision process and it already has through the political scheme anyway.

I only raise to mind that sooner or later accountability is not something just for the offshore people; it is something we have to take into account for inshore people, that we can account for ghost fishing, we can account for marine debris, and the impacts of these gears in their direct form.

PROGRESS IN DISCUSSIONS WITH JAPAN

Japan will continue, by domestic regulation, to enforce limited entry, controlled fishing area boundaries, non-retention of salmonids, prohibition of catch transfer at sea, vessel ID and gear ID arrangements, mesh size restrictions, mandatory position reporting, mandatory catch record submission.

Penalties (port confinement) have been doubled.

Licence numbers and vessel registration information will be provided to the USA and Canada.

Fishing will proceed according to regulatory description of the fishing boundaries described earlier.

Japan undertook to consider revision of the northern boundary for July and August in future years based on the findings of the 1989 program and the concerns of Canada and the USA.

Vessel name, licence number and registration number of all squid vessels will be displayed and each vessel will display two blue stripes surrounding the bridge.

Net will be marked every 40-50 m with vessel name and licence number.

Vessels will retain used/damaged net and return it to shore.

Japanese patrol effort will increase from 4 patrol craft (265 vessel days) in 1988 to 5 patrol craft (600 vessel days) in 1989.

Japan will consider installation of satellite transmitters for vessel position reporting in 1990 taking into account US testing of the devices on US domestic vessels in 1989.

Japan will provide Canada and the USA with weekly position data to show the disposition of the fleet during the season.

Japan will liaise with US patrol craft at sea and will utilize US information in prosecutions; information on Japanese enforcement activities will be provided.

The USA and Japan will exchange observers on patrol vessels and Japan will have an observer on U.S. Coast Guard surveillance aircraft.

Patrol craft will observe, record and transmit information on non-INPFC vessels seen fishing for salmon to Canada and the USA.

OTHER ARRANGEMENTS:

Japan has agreed to consider accepting North American observers aboard large mesh driftnet vessels in 1990 and beyond (these vessels fish marlin and other species).

RESEARCH:

Canada will deploy one scientific research vessel in the area of the Northern Boundary of the squid fishery in 1989 during July and August. Studies will include distribution of squid and salmon, salmon tagging operations, observation of driftnet fleets operated by Japan, Korea and Taiwan, oceanographic investigations and observations of lost or discarded gear.

Japan will deploy two scientific research vessels, one of which will have a Canadian scientist aboard.

PROGRESS IN DISCUSSIONS WITH KOREA AND TAIWAN

A Canadian delegation met recently with Korean officials and reported the following results of the meeting:

- A US observer will be placed on a Korean squid vessel in the 1989 season as was done last year.

- The Koreans confirmed that they are prepared to implement boundary limits for the squid fishery similar to Japan on the eastern and northern sides of the fishing areas. They wish to conduct unrestricted fishing W of 170 E longitude.

- Korea will put in place a pilot enforcement program consisting of three government and sixteen commercial vessels.

- Korea indicated it did not wish to install satellite position devices on vessels.

- Canada pressed for a regulatory regime that would prohibit retention of salmonids.

- Korea indicated that net marking, reduction of net mesh size to less than 86 mm to reduce marine mammal entanglement, reporting of incidental catch, retention and shoreside discharge of waste nets were being implemented.

- Korean net manufacturers are studying the feasibility of producing biodegradable netting.

- The USA has been meeting with Taiwan and although details are lacking, it appears Taiwan may be willing to implement restrictions on the fishery including installation of transmitter devices on squid vessels.

SPEECH

DISCOURS

NOTES FOR AN ADDRESS

BY

THE HONOURABLE TOM SIDDON

MINISTER OF FISHERIES AND OCEANS

TO

THE NORTH PACIFIC DRIFTNET FISHERIES CONFERENCE

DUNSMUIR LODGE

BRITISH COLUMBIA

JULY 18, 1989

I want to thank all of you for your participation at this Driftnet Fisheries Conference, which the federal Department of Fisheries and Oceans is honoured to co-host with the British Columbia Government.

Thank you and welcome, on behalf of myself and my colleague, B.C.'s Minister of Agriculture and Fisheries, the Honourable John Savage.

I don't think I have to remind anyone here how vitally important it is that we get together to share our individual knowledge and experience as we seek to develop an understanding of and an approach to the control of high seas driftnetting in the Pacific.

And there is no doubt that our collective wisdom will be enhanced at the end of this meeting.

Equally as vital is the attention this conference will focus on driftnetting and its consequences.

And putting the driftnet fisheries clearly on the international environmental agenda is an outcome, in my opinion, at least as important as the scientific benefit we expect to derive from this conference.

Please, make no mistake about Canada's position in regard to the rapid and un-regulated use of high seas drift nets in the North Pacific. We are clearly opposed to it. And we are increasingly troubled by the possibilities of high seas interception of our Pacific salmon stocks, and other incidentally caught species in these nets.

This is why I decided to put our own house in order over two years ago by ending the experimental use of driftnets within our 200 mile limit. This is why I initiated an intensified program of scientific research into drift net fishing, and the toll taken by abandoned monofilament nets after I became Minister of Fisheries and Oceans. This is why Canada has pressed hard for the placing of North American observers on Asian drift net vessels. This is why the Government's recent throne speech announced intensified efforts to end predatory overfishing of Canadian fish stocks beyond the 200 mile limit. And this is why Prime Minister Mulroney and External Affairs Minister Joe Clarke have both placed this issue high on their international agendas.

Whatever the cause, whatever the reason, too many too often expect an immediate, simple resolution to a complex issue. It is far too easy to call for a moratorium on all drift net fishing. It is far to easy to call for an international conference on the issue. But to what effect, if the chairs of the offending parties remain vacant?

Mr. Savage and I expect that the time you spend here at the Dunsmuir Lodge will help increase public awareness of all our efforts to control driftnetting...the necessarily long term nature of our efforts... But more importantly, you will have a role in helping National Governments to develop a strategy for limiting, and if necessary, ending the use of these 'curtains of death'.

There is, as every politician recognizes, a risk inherent in placing an issue on the public agenda...that so doing may raise public expectations...they may mis-perceive an issue...an intercontinental, trans-oceanic issue, in this case...as an immediate environmental crisis with an immediate solution.

It is a risk, however, that I have accepted in the past and I am willing to accept, today.

So it is essential to understand that an end to driftnetting will not be found through a process of sabre-rattling or gun-boat diplomacy. It will require persistent, and sensitive work of a scientific and diplomatic nature.

I believe we will attain our common goals -- the ultimate goal of safe, rational, sustainable use of one of our most important and common planetary resources: the world's oceans, as well as our more immediate challenge of controlling the Pacific driftnet fisheries -- we will reach those goals faster with public understanding and support. The concerns of the public, and fishermen particularly, have already helped to focus our attention on the task at hand.

So while I share the general wish that we will have an immediate solution, the reality is that the problems associated with the driftnet fisheries cannot be simply wished away, overnight.

We need to make our position clear to those nations who continue to driftnet indiscriminately. We also need to unite in order to control those countries who turn a profit -- a handsome one, I'm told -- selling salmon some of which may be of North American origin which has been either illegally targeted or incidentally caught in by-catches at levels that cannot be tolerated. This could have a significant impact on fishermen's livelihoods, but we have no evidence to date which would confirm this possibility.

We need to take tough, realistic action in concert with strong and committed allies...and with solid scientific evidence that proves we know what we are talking about.

We need to back up what we "believe" with what we "know."

Canada objects to the uncontrolled use of driftnets for environmental reasons and on a global scale.

We, like many other countries, have a broad interest in protecting the marine environment from the uncontrolled harvesting of species which, outside the 200-mile zone, are not protected by appropriate forms of international conservation or management...be they fish, marine mammals or sea birds. This is the 'Common Heritage of Mankind'.

While there is not yet hard, scientific evidence that demonstrates that an ecological disaster is looming on the high seas, we feel an intuitive repugnance at the use of these driftnets because they operate in such an indiscriminate manner. And their is no mechanism to limit the expansion of their fisheries

If you do the arithmetic, you realize that some nights Asian boats release enough net to encircle the globe at the equator. But at the same time if you spread these nets only in the squid fishery area, you only get 4 linear meters of net per square kilometre of ocean. But neither comparison is indicative of the potential dangers of these nets.

Rational management of our fisheries resources is based on good science, and that is based on proving a theory valid with solid data and supportive evidence. That is how we manage the sustainable harvesting of our own coastal fisheries. Our scientists tell us that we need to know, with greater certainty, just how many legitimately targeted animals, and how many untargeted animals die as a result of this fishing method.

And, in the context of the Bruntland Commission report, we need to know if there is a justifiable sustainable limit to this fishery, before deciding to abolish it altogether. And we need to know the full extent of the effect on the environment of lost or discarded driftnet gear...ghost fishing, as its called.

And we don't yet know how much salmon of Canadian origin is taken by the high-seas driftnet fleets.

We know that the number of salmon being intercepted accidentally or deliberately is significant. We do not know the extent to which these salmon are of Canadian origin.

Driftnet catches of salmon may occur as an incidental bycatch when the main target species is squid because salmon sometime migrates through the same waters, at the same time.

Or, they may be taken illegally farther north of the main squid fishing areas by captains deliberately targeting on salmon. All these issue are the basis for substantial concern, but we need

the data to give substance to that concern and to seek effective remedies.

As I said earlier, Canada has taken action on a number of fronts to answer these questions. The work is expensive and time consuming, but we are getting closer to the answers we need.

Some years ago, at the urging of commercial interests, the Department of Fisheries and Oceans licensed a small-scale, experimental high seas type squid driftnet fishery using a small number of Canadian and Japanese commercial vessels. This fishing was conducted inside and just outside Canada's 200 mile zone - much further east than Asian fishermen normally fish.

In 1987, that experimental driftnet fishery lasted just seven weeks. Just in those 49 days the Canadian experiment netted 639 salmonids, 44 marine mammals and 112 sea birds.

I am assured that many of the sea birds and mammals captured by this experimental squid fishery were released unharmed.

And while it would be dangerously unscientific to extrapolate a conclusion from the number of animals captured, their netting indicated to me a problem of possibly dangerous proportions.

It indicated a problem which needed immediate action. I decided that Canada should lead by example.

Therefore, in November, 1987, I suspended the experimental high seas type driftnet squid fishery and put a moratorium on the use of these driftnets inside the Canadian 200-mile zone.

As well, that year, I took our scientific data and analysis to the International North Pacific Fisheries Commission, the INPFC, and asked for a commitment for international cooperation and action.

I urged the other members of the INPFC to join us...to join Canada...in an international initiative which would address the problems -- the very serious problems -- of uncontrolled high seas driftnet fishing.

I appealed to the members of the INPFC -- and indeed to all nations which fish and conduct research in the North Pacific -- to gather and share valuable scientific information which would lead to a better understanding of the effects of driftnets on ocean resources...and to less harmful, alternative fishing gear and practices.

I called on all driftnetting nations to accept INPFC observers on board their vessels to gather the scientific data we need on the high seas driftnet fisheries.

We have had some successes with those initiatives...this conference itself, of course, bears witness to the increased international cooperation among nations on the rim of the North Pacific.

As well, Canada, and the United States, have just this year concluded agreements with Japan to increase the number of observers and for the first time to include Canadians on their fleet.

Canadian scientists have also participated in Japanese research cruises.

In 1986, we began our own research program into the driftnet fisheries.

As well as the now-cancelled experimental driftnet fishery conducted inside Canada's 200-mile limit, we have conducted high-seas experiments designed to investigate our case against driftnetting and the environmental damage resulting from their use.

It was the research vessel, the M.V. Ricker, on a 1988 research cruise, that identified the potential for salmon interceptions in the high seas squid driftnet fisheries.

In 1989 the Arctic Harvester, a chartered vessel, which sailed just last week, is aimed primarily at obtaining information about the number and origin of salmon caught by high seas squid driftnets. But there is more to it than that.

On the cruise, oceanographic observations will be taken. Scientific researchers will monitor the abundance of marine mammals and other sea life, and catches by discarded driftnets. In addition, they will observe the fishing activities of Asian squid fleets to determine both the type and amount of net being used, and the exact location of their fishing activity.

Complementary to this high-seas program, the Department instituted, in 1986, a survey of driftnets entering Canadian waters on our West Coast.

In 1987, and again last year, Canada hosted representatives of five countries -- the USA, Japan, the USSR, China and ourselves -- to discuss the establishment of a new international scientific organization for the North Pacific Ocean and the Bering Sea. Its objectives would be to promote the cooperative investigation of marine biology, oceanography and pollution.

Also in 1987, oceanographers working at our Pacific research centre in Sidney commenced an ocean modelling project to identify driftnet movement.

Later in 1987, Canada together with the USA and Japan, strengthened existing regulations to prohibit the importation of salmonids taken in the INPFC area other than by members of the INPFC.

In 1988...last year...at the meeting of the INPFC in Tokyo, we initiated an eight-point action plan designed to "get tough" with those who would attempt to market illegal salmon.

Later last year, a vigorous, joint Canada-US program of enforcement of those importation prohibition measures resulted in the arrest and charging of a number of individuals involved in the illegal marketing of intercepted salmon. Needless to say, that cooperation is continuing, and we are determined to prosecute those who engage in these illegal operations.

This year, Canadian officials have met with representatives of the governments of Singapore, Thailand and Hong Kong to underline Canadian concerns about the purchase of illegally caught salmon by processing plants in those countries.

During Canada - Korea bilateral discussions held in Seoul this past May Korea agreed to enforce their own measures in the regulation of its squid fishery. In particular, they undertook to prevent the catching of salmon and to enforce time and area limitations.

As well, the Korean Government is now considering manufacturing their driftnets from natural fibre, to hasten their decomposition, and limit their damage, in the environment.

Which brings us back to today's situation. We have taken the first steps...some of them are large steps, indeed, covering much ground, but they are still first steps...toward rational control of the driftnet fisheries.

This conference is another such step.

We need the experience, knowledge and expertise you each bring to the table if we are to successfully influence the future of the North Pacific driftnet fisheries towards a fishery based on sustainable development, resource conservation and appropriate fishing techniques.

The Government of Canada is committed to having this issue addressed. It is high on our agenda for international action. With the cooperation of all levels of government working with the senior level, we can bring about solutions that will benefit both

those countries which fish for squid and those which fish for salmon. What we need now is a review of the adequacy of the scientific information base, and a diplomatically sensitive strategy for dealing with the Asian nations. I eagerly anticipate your recommendations in these two areas.

Let me note in closing my pleasure at the interest shown by the Province of British Columbia and particularly John Savage and Premier Vander Zalm in this issue. I look forward to their support for future initiatives on the driftnet question.

Again, thank you for your participation. I am sure it will be a very successful conference, and look forward to my officials' report on your discussions.

North Pacific Driftnet Conference

COMMUNIQUÉ

NEWS RELEASE

FOR IMMEDIATE RELEASE

July 19, 1989

International Meeting to Discuss Driftnet Fishery in North Pacific Urged

VICTORIA, B.C. -- Delegates to the international North Pacific Driftnet Conference have expressed grave concern over the environmental and economic impacts of high seas driftnet fisheries on stocks of North American salmon and populations of seabirds and marine mammals. They noted the lack of adequate scientific information or fishery management controls. Provincial and state delegates called for a meeting between the Premier of British Columbia, the government leader of the Yukon, and the Governors of Alaska, California, Washington, Oregon, Hawaii and Idaho later this year, to assess the results of this conference and to make recommendations for international action.

The conference, which was hosted by the Province of British Columbia and the Department of Fisheries and Oceans, was attended by senior government officials from the Canadian Departments of Fisheries and Oceans and External Affairs, the United States State Department and Department of Commerce, the

States of Alaska, Washington, Oregon, Idaho and California and the Province of British Columbia. In addition, there was representation from SEACOPS and from the Forum Fisheries Agency of the South Pacific, Australia and New Zealand where similar driftnet operations are conducted outside the 200 mile zones.

Provincial and state delegates drafted the following principles as recommendations for proper management of high seas fisheries:

Fishing may be conducted on the high seas in accordance with the law of the sea and subject to the following obligations that are consistent with the law of the sea:

1. There must be provision for conservation and rational management of salmon, tuna, bill-fish and other stocks.

2. There must be recognition of the rights of states of origin to manage anadromous species and action to ensure that these fisheries are not harmful to the environment and to resources originating within the 200 mile zones of coastal states.

(more)

3. High seas fisheries must be conducted in a manner that minimizes or eliminates the incidental taking of seabirds, marine mammals and other living marine resources.

4. Marine debris resulting from fishing operations must be minimized or eliminated.

5. Fishing activities must be strictly controlled through effective flag state and international, scientific monitoring and enforcement systems.

The delegates agreed, that in support of these principles, all nations should take steps to ensure that their channels of commerce are not used to market marine resources illegally harvested on the high seas.

The conference acknowledged that comprehensive scientific studies are taking place this summer, using research vessels and through observers on vessels fishing with driftnets in the North Pacific Ocean. These preliminary results should be available to governments at the International North Pacific

Fisheries Commission meeting in Seattle October 29 - November 9, 1989. The conference urged acceleration of efforts over two years to obtain further scientific information which would:

a) eliminate illegal interception of salmon outside of the squid fishery boundary including use of transponders for all vessels in the fishery;
b) provide accurate estimates of interception of salmon inside the squid fishery boundaries and of marine mammals, birds and non-target species;
c) develop a multinational research effort designed to provide for the sustainable management of legitimate high seas fisheries;
d) prepare a comprehensive, interpretive report of existing information; and,
e) expand the cooperative Canadian/United States stock identification program to better identify the origin of salmonid stocks.

Delegates to the conference agreed to deliver the information and ideas coming out of the conference to their respective elected representatives.

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Province of British Columbia
Ministry of Agriculture and Fisheries

NEWS RELEASE

FOR IMMEDIATE RELEASE

July 19, 1989

International Meeting to Discuss Driftnet Fishery in North Pacific Urged

VICTORIA, B.C. -- Provincial and state delegates to the international North Pacific Driftnet Fishery Conference have expressed grave concern over the environmental and economic impacts of high seas driftnet fisheries on stocks of North American salmon and populations of seabirds and marine mammals. They noted the lack of adequate scientific information or fishery management controls.

Delegates called for a meeting between the Premier of British Columbia and the Governors of Alaska, California, Washington, Oregon, Idaho and Hawaii later this year, to assess the results of scientific research on driftnets taking place over the summer months and to make recommendations for international action.

The conference, which was hosted by the Province of British Columbia and the Department of Fisheries and Oceans, was attended by senior government officials from the Canadian Federal Departments of Fisheries and Oceans and External Affairs, the United States Federal State Department and Department of Commerce, the States of Alaska, Washington, Oregon, Idaho and California and the Province of British Columbia. In addition, there was representation from SEACOPS and from the Forum Fisheries Agency of the South Pacific, Australia and New Zealand where similar driftnet operations are conducted.

The State of Alaska has offered to co-host, together with the Government of British Columbia, a subsequent meeting of the western states' Governors and the Premier of British Columbia in Alaska this fall.

It is anticipated that regional leaders will review the findings of this conference and then make recommendations regarding implementation to their respective federal governments.

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MEMORANDUM

FOR IMMEDIATE RELEASE July 19/89

VICTORIA, B.C. -- Delegates to a Canada-U.S. North Pacific Driftnet Fishery Conference have recommended a meeting between the Premier of British Columbia and the Governors of Alaska, California, Washington, Oregon and Idaho, followed by an internatonal forum which would include all countries involved in the North Pacific driftnet fishery.

The conference, which was hosted by the Province of British Columbia and the Government of Canada, was attended by senior government officials from the Canadian Federal Departments of Fisheries and Oceans and External Affairs, the U.S. Federal State Department and Department of Commerce, the States of Alaska, Washington, Oregon, Idaho and California and the Province of British Columbia. In addition, there was representation from SEACOPS and from the Forum Fisheries Agency of the South Pacific where similar driftnet operations are conducted.

Delegates to the conference agreed to discuss the recommendations coming out of the conference with their respective elected representatives.

- 30 -

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SPEAKING NOTES TO PRESS CONFERENCE
HONOURABLE JOHN L. SAVAGE
WRAP-UP TO
THE NORTH PACIFIC DRIFTNET CONFERENCE
July 19, 1989

Good afternoon, ladies and gentlemen.

I am delighted to be able to report positively to you ladies and gentlemen of the press on the results of this North Pacific Driftnet Conference.

For the past two days, these deliberations have been a model of the kind of local, international, inter-governmental and interdisciplinary attitudes which must increasingly be applied to world environmental issues.

For 20 years, we have recognized and used the phrase "the global village". It is perhaps more apt today than ever before. Increasing populations have placed even larger demands on the world's resources, while modern technologies have seemed to reduce the distances between nations. We have become one another's neighbours in a world community which grows ever more interdependent.

But even as we watched our world shrink to the size of the "global village", we continued to treat our oceans as the vast, endlessly bountiful food supply and garbage disposal system that they have been since the beginning of time.

The truth is that our oceans, too, have shrunk. As the statistics presented at this conference have clearly shown, demands on the ocean's resources have multiplied 15-fold since the turn of this century. Thus, we must learn to think of the North Pacific more as a lake, with we global villagers living on its fringes, still dependent upon it for a large part of our economic well-being.

The driftnet issue pervades the consciousness of all citizens of British Columbia, irrespective of their dependence on the fishery or their proximity to the Coast. In my travels about the province, the first question I am asked, irrespective of age or background, is "What are you doing about driftnets?"

My reply has been that this conference is the start of our contribution to an ongoing process that will help us to deal with the North Pacific as the fragile and limited resource that it truly is. The delegates have not let me down.

In the view of most British Columbians, the current, poorly controlled use of driftnets on the Pacific high seas is a hazard to sustainable fisheries management and is environmentally unsound.

These driftnets are a potential threat to our own salmonid stocks, which supports a 3/4 billion dollar fishery, a major pillar of this province's economy.

Moreover, the long-term effects of the destruction of non-target populations of fish, sea birds and marine mammals may even be more serious. These losses are as yet largely uncounted, but our best evidence and common sense indicate profound and far-reaching damage to the ecology and therefore to marine-based industries.

We have in recent years witnessed the virtual collapse of several of the Atlantic fisheries. As scientists, politicians, public servants or simply as citizens of Pacific Rim nations, we must not allow indecision or lack of will to produce similar economic hardship in the Pacific.

I have, this morning, been at a Cabinet meeting where I spoke to Premier Vander Zalm on this very issue. Mr. Vander Zalm believes that if the Governors of the west coast states will join him in adopting the principles agreed upon by the delegates to this North Pacific Driftnet Conference, then great progress can be made toward the curtailment of driftnet fishing on the high seas.

I am pleased to announce that Governor Cowper of Alaska has, within the past couple of hours, graciously offered to co-host, with our Premier, an autumn meeting of these Governors in Alaska. While driftnets will be the main focus of that meeting, we hope that this will inaugurate annual conferences of Governors and our Premier to discuss Northwest Pacific issues of common economic and environmental concern.

We Pacific Rim peoples must ensure that our precious marine resources are sustainable over the long term. This can only be accomplished by working together, as a community of nations who share responsibility for the common heritage of our children.

This conference has been an important step toward informed, rational and coordinated management of Pacific marine resources.

A breaking news story has underlined the seriousness of the situation on the high seas which has been addressed by this conference.

We were informed by U.S. authorities in Seattle an hour ago of a high seas salmon-sting operation which has resulted in the arrest of six Taiwanese nationals.

Special Agents of the U.S. Departments of Commerce, Customs and Coast Guard coordinated a land, sea and air effort to intercept the trafficking of millions of pounds of illegally taken North Pacific salmon.

On behalf of the Premier and the Government of British Columbia, I would like to congratulate these law enforcement agents on the success of their operation.

We hear, by less formal channels, that agents are still in hot pursuit of two Taiwanese fishing vessels. We wish those Agents luck.

Question period.

SECTION III

CONFERENCE FOLLOW-UP AND DOCUMENTS

Actions by British Columbia Following the North Pacific Driftnet Conference

The Government of British Columbia has an action plan to follow up the North Pacific Driftnet Conference. Politicians and government fisheries personnel are participating in and supporting the following international meetings and initiatives prior to the end of 1989.

- During the 1989 summer fishing season, British Columbia sponsored an observer onboard a Japanese driftnet vessel in order to monitor this fishery and provide up-to-date, factual information. Reports will be received and analyzed from an additional four Canadian and nine American observers.

- Provincial representatives participated in the Pacific Fisheries Symposium in Blaine, Washington in August. Representatives from the vast majority of Pacific Rim countries attended and driftnet fishing was one of the major issues addressed.

- Provincial representatives will attend the International North Pacific Fisheries Commission meeting in late October and will continue to make the Province of British Columbia's concerns known to the governments of Canada, the United States and Japan.

- The Premier of British Columbia, along with the Governors of Alaska, Washington, Oregon, Idaho, California and Hawaii will meet in Anchorage, Alaska, October 23, 1989, to draft an action plan to be presented to the federal governments of Canada and the United States. It is anticipated that the Anchorage meeting will be following by an international meeting with all affected or participating Pacific Rim countries in early 1990.

- Meanwhile, the Province of British Columbia will continue to provide support to the governments of Canada and the United States in their current efforts in pressing Japan, Taiwan and South Korea to curb the use of environmentally unsound fishing practices.

SCIENTIFIC/TECHNICAL WORKING GROUP SUMMARY

1. Constraint:

   Agreed that there is limited time by which answers to important questions concerning driftnet fishing are required. The members of the work group believe that two years would be maximum time.

2. Identified the Scientific Issues as Follows:

   (a) Illegal fishing - interceptions of salmonids outside of the squid fishing area.

   (b) Interception of salmonids within the squid fishing area.

   (c) Interception of birds, marine mammals, and other non-target species.

   (d) Institutional arrangements - develop new cooperative research arrangements among North Pacific fishing nations - new international science organization.

   (e) Preparation of a comprehensive report on the present state of knowledge regarding the biology and fishery for squid and the by-catch in the fishery, and

   (f) Cooperative stock identification programs between Canada and the United States to improve the ability to identify the origin of salmonid stocks.

BACKGROUND INFORMATION FOR SCIENTIFIC ISSUES

2(a) Illegal Fishing

Interception of salmonids outside of the squid fishing area.

It was generally agreed that if the countries truly do not wish to intercept salmonids while targetting on squid, it should be possible to negotiate with them to have electronic transponders installed on their vessels. Taiwan has already agreed to have 10 percent of its vessels so equipped this year and 100 percent next year.

Altogether, it is recognized that there may be some technical difficulties with transponders such as "dead areas" or satellite holes, these could readily be overcome. Any movement of the transponder equipped fishing vessels outside of the legal squid fishing zones will be easily detected and recorded and could be followed up by "enforcement vessels". A transponder system will also provide much data on fleet movements and fishing patterns as well as being an effective enforcement tool.

These electronic transponders are generally accepted to be reliable and affordable and can be "coded" to identify the vessel as well as indicate its location.

2(b) Interceptions of Salmonids Within the Squid Fishing Area

The working group agreed that estimates of interceptions of salmon in the squid fishing area of between 3-4,000 tonnes and 15,000 tonnes was a reasonable approximation at this time. It was agreed that the data in the assumptions used to make this estimate need to be improved. To do this we need to continue our present research and expand our observer coverage. Observers should be able to confirm if incidental catch rates from the research cruises of Japan and Canada can be applied to the commercial fishery. It is particularly important to determine if incidental catch rates in the western portion of the squid fishing area are similar to catch rates in the eastern portion. It is essential that we have accurate estimates of the number of fishing days in July and August by all countries. We also need to confirm that virtually all of the effort is within 4 degrees of the northern boundary. The working group believed that it is essential to continue research cruises. In particular we felt that the United States and Canada should carry out cooperative research because the issues are relevant to the fisheries of each country. Research cruises provide estimates of catch rates in a scientifically controlled manner that are independent of the influence of commercial vessel captains. Research cruises also enable scientists to carry out tagging studies, stock identification programs, and observational programs on marine mammal distributions. It is important that we continue to collect oceanographic information. Preferably, we should stratify our observer coverage by temperature and area, but this may be difficult to plan in advance.

The committee noted that it will be expensive to carry out this research. Thus, it is important that we attempt to identify monitoring techniques that are cost effective and can be used in the long term.

2(c) Interceptions of Marine Mammals, Birds, and Other Non-Target Species

The working group agreed that this issue is the most sensitive issue for the general public. The acceptability of any incidental catch has a scientific component and a "moral" component. As a scientific working group we considered how we could improve our estimates of interceptions and how we can assess the impact of these interceptions on the particular populations.

It was agreed that the procedures used to assess salmon interceptions would be adequate for the assessment of interceptions of other species. It is possible that more observations may be necessary if significant interceptions occur in months other than July and August. We accepted that it may be difficult to assess the impact on the population dynamics of the particular species within 2 years. However, until better estimates of the amount of interceptions are available, it is not possible to guess at the amount of time required. The working group also noted that it may be important to compare the interceptions in the squid fishery with interceptions in the domestic fisheries of Canada and the United States of America.

2(d) Institutional Arrangements

Consideration should be given to the formation of a multinational organization that would finance research necessary to form the basis for sustained management of renewable resources in the North Pacific. Clearly, it is in the interests of nations that utilize these resources to support this research. As issues such as the driftnet case continue to generate intense international political pressure, it should become increasingly obvious that nations that wish to operate in international waters will have a strong incentive to cooperate and finance research efforts that will serve their long-term interests.

There is increasing awareness that species that sustain the large fisheries in the North Pacific Ocean may be vulnerable to over fishing. For example, the walleye pollock fishery currently lands over 2,000,000 tonnes and is the largest fishery in the world. Recently, the countries participating in this fishery have expressed concern about the ability of the population to withstand this harvest rate. This concern resulted in a series of scientific meetings and cooperative research programs.

The working group believed that a similar concern will develop for the squid fishery (about 300,000 tonnes), the salmon fishery (about 800,000 tonnes) and other species in this community. In addition, we recognized that a warming of the ocean will influence the distribution and abundance of these species. We believe that the cost effective and timely way of dealing with these issues is to establish a North Pacific science organization.

2(e) Preparation of a Comprehensive Interpretive Report

Although the working group agreed that there are large gaps in the information available regarding the squid driftnet fishery, it was also recognized that there currently exists a wide variety of information, including extensive documentation, that is not readily available to all people.

The proposal is to prepare a comprehensive report that will bring all available information together in one report and provide an interpretation of the data. This report could be modelled after the draft report prepared by the NMFS as background for the recently introduced United States Driftnet Monitoring Act.

It is proposed that the report be prepared jointly by Canadian and U.S. scientists and that Japan, Korea and Taiwan be invited to nominate scientists from their countries to participate in preparation of the report. If these invited countries choose not to participate in the process, the preparation of the report should still continue. It was further agreed that the time frame for the submission of the report would be one year.

The completed report should be distributed to at least all members of the conference. The question of further general distribution of the report was referred to conference organizers as was the suggestion that a subsequent "popularized" version be prepared for the general public.

It is hoped that the report would be available at future meetings associated with the driftnet issue.

2(f) Stock Identification

The primary tools presently used for stock identification of salmon and steelhead intercepted on the high seas are tagging, scale pattern analysis and genetic stock identification which utilizes electrophoretic analysis. Parasite data have also been useful for some stocks of some species.

Tagging information provides valuable data for salmonids. However, it is expensive and only a very small percentage of salmonids can be tagged. It is also difficult to use tag recovery information for quantitative determination of stock composition.

Scales are presently the primary tool for stock separation on the high seas. They can provide information on the continent of origin for chinook, coho, chum and sockeye salmon. Their use as a stock identification tool should be continued.

Genetic stock identification theoretically has the greatest stock separation capability with the highest degree of accuracy and precision. However, the baseline databases are currently the weak link in the ability of this technique to define stock origins of samples from the high seas. This limitation is due to gaps in North America and very limited data from Asian stocks.

The working group agreed that the agencies in North America having jurisdiction for the major stock groups, that potentially could contribute to high seas catches, place a high priority on sampling and analyzing these stocks for inclusion in Coast-wide genetic baseline databases.

Because it is not always possible to collect the necessary tissue samples from high seas mixed stock samples for genetic analysis and because it is often easier to obtain scale samples from high seas salmonid catches and from Asian stocks, stock identification using scale characters should be pursued in concert with genetic stock identification analyses.

In addition, a high priority must be given to encouraging and/or persuading Japan and the Soviet Union to join this cooperative effort. In this regard, a stock identification system must be made available that ensures credibility and confidence. A system with standardized methodologies must be presented so that results can be replicated by other scientists and from laboratory to laboratory. Examples of this include a laboratory manual with detailed analytical methods and associated photographs of the observed isozyme patterns and frozen tissue collections containing standards of all of the currently documented genetic variations. A similar manual should be developed for differences in scale characters used in stock identification.

TREATIES AND LEGISLATION
NOTE ON LEGAL AGREEMENTS

By: Barbara Johnson
Director of Special Projects
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Relevant International Treaties and Agreements

The United Nations Convention on the Law of the Sea, 1982

The 1982 Convention on the Law of the Sea is the primary international legal agreement with regard to both law of the sea and international fisheries issues.

Based on the status of the Convention and its coverage, the Convention provides important principles which could guide the development of an international legal regime to regulate and control the economic and environmental impact of driftnet fisheries.

Equally, though, there are definite limits on the immediate, direct remedies the Convention gives coastal states in eliminating or controlling high seas driftnet fishing.

Status of the Convention

The Law of the Sea Convention was signed in 1982 by 119 countries after almost a decade of intensive negotiations. It is not yet fully in force, since its provisions require that sixty countries ratify the Convention before it takes full legal force (i.e. before governments are bound by its obligations). Because of disagreement over the deep seabed provisions of the Convention, the developed states have so far refused to ratify the agreement. There are no reservations allowed to the Convention - it has to be adopted in its entirety or not at all. To date, forty states have ratified the Convention, the only developed country in the group being Iceland because of its very strong fisheries concerns. Some estimates suggest that, at this rate, the Convention would come into force in 1992-93. Thus in terms of strict treaty law there are no internationally binding obligations under the 1982 Convention. As far as the parties are concerned, the United States, Canada, Japan, and the Soviet Union have all signed but not ratified the Convention. South Korea signed the Convention in 1983; Taiwan did not participate in the LOS negotiations and is thus not a signatory.

However, whether or not the Convention ever comes into force, its provisions do have status under established state practice (i.e. customary international law). If state practice is accorded the same status as treaty law, there is a sound basis to argue that international legal norms do exist now with respect to law of the sea and control over international fisheries. This is particularly so in the case of economic zone provisions, which can be unilaterally implemented by coastal states, and less true in other parts of the Convention, which require multilateral action to put into place (such as the rules for the Deep Seabed). Provisions for controlling high seas driftnet fishing would fall in the middle of these two extremes.

Relevant Provisions in the 1982 Convention

In respect of controlling the harvest of salmon in the North Pacific driftnet fishery, the relevant provisions are the general provisions of the economic zone (Articles 55 to 75); the specific provision relating to anadramous species (Article 66), and the conservation and management provisions regarding living resources in the high seas (Articles 116 to 120).

Economic Zone Provisions

Article 56, dealing with general coastal state rights, gives the coastal state sole authority over exploiting the living resources of the zone.

Article 61 lays out coastal state obligations with respect to ensuring conservation of living resources in its economic zone.

Anadromous Provision

Article 66 gives the state of origin the "primary interest in and responsibility for" salmon stocks. It establishes the general principle that salmon fisheries should generally be only conducted within the economic zone, but does provide for exception in the case of economic dislocation of states other than the state of origin.

In respect of international management and enforcement on the high seas, the article calls for mutually agreed on enforcement measures between the state of origin and other concerned states. The article also provides for the possibility of regional organizations to implement the anadromous provision.

Other Specific Provisions

Article 64 (Highly Migratory Species) provides for international cooperation with respect to highly migratory species such as tuna but gives no special rights to coastal states.

Article 65 (Marine Mammals) allows for national and international conservation measures, including stricter national measures than provided for in the Convention.

High Seas Fisheries Provisions

The remaining relevant provisions in the Convention are in the second part of Part VII (High Seas), and cover conservation and management of the living resources of the high seas.

Article 116 provides a general right of high seas fishing, subject to treaty obligations and as qualified by the economic zone provisions noted above.

Article 117 imposes on all states the duty to cooperate in conserving the living resources of the high seas, with respect to controlling fishing by their nationals.

Article 118 requires states to cooperate with each other in ensuring conservation of high seas resources, including through establishing subregional or regional fisheries organizations.

Article 119 deals with utilization, including criteria for setting high seas catches, and taking into account incidental effects.

Article 120 extends the obligations with respect to marine mammals to the high seas.

This summarizes the main provisions with respect to salmon concerns. There are other relevant sections of the Convention with respect to protection of the marine environment.

International Convention for the High Seas Fisheries of the North Pacific

The major institution for North Pacific fisheries is the trilateral International Commission for North Pacific Fisheries (INPFC), which includes the United States, Canada and Japan. Japan has been the least supportive of the three members as it was induced to sign the Convention in 1952 as a condition of the return of its independence in the postwar peace settlement. The treaty requires non-coastal states to refrain from exploiting fish stocks (salmon and others) already taken at the level of their maximum sustainable yield. In practice, this has reserved most North American salmon for Canadian and American fishermen. When the Convention was drawn up, it was thought that North American salmon did not migrate west of 175 degrees west longitude. Accordingly, the Japanese were permitted to fish freely west of that line, but it was later discovered that Asian and North American stocks intermingled in sizable amounts west of the line.

The Commission itself meets annually to exchange research results and these multilateral negotiations are closely tied to ongoing bilateral consultations among the four North Pacific salmon states. To date, the three parties (Japan in particular) have resisted expanding membership to other countries, i.e. U.S.S.R.

With respect to enforcement, the Convention does allow for boarding of vessels on the high seas.

New Proposals for a North Pacific Science Organization (PICES)

In 1987 and 1988 Canada hosted representatives of five countries -- China, Japan, the U.S.S.R., the U.S.A., and Canada -- to discuss establishment of a new international scientific organization for the North Pacific Ocean and Bering Sea. Its objectives would be to promote the cooperative investigation of marine biology, oceanography and pollution in the North Pacific Ocean and Bering Sea. It has been nicknamed PICES because it would be a Pacific version of the International Council for the Exploration of the Sea (ICES), a broad scientific research organization set up in 1902 to review marine scientific research in the North Atlantic. It is important to note that ICES never regulated or allocated the fisheries.

National Legislation:

North Pacific Fisheries Convention Act (Canada)

The legislation allows the federal government to make regulations concerning the "landing, importation, sale or other disposal or fish caught in any part of the Convention area" (Article 4). General enforcement measures to implement the provisions of the Convention are also provided for. The regulation thus contains inter alia provisions to prevent the "laundering" in Canada of illegally caught salmon.

Driftnet Act (United States)

This requires countries whose nationals carry out high seas driftnet fishing to negotiate agreements with the United States to control these operations so as to conserve fish stocks, marine mammals and sea birds. If agreements are not reached by the end of June 1989, the Pelly Amendment becomes operative, allowing an import embargo on fishery products from the violating country. The full title of the Act, passed in 1987 is the "Driftnet Impact Monitoring, Assessment and Control Act of 1987".

Lacey Act (United States)

The Lacey Act, first enacted in 1981, gives the U.S. government authority not to allow fish into the United States taken in violation of domestic or foreign law. However, if the fish (i.e. salmon) do not enter the U.S. the U.S. federal government can do little with its provisions.

Magnuson Act (United States)

The Magnuson Fishery Conservation and Management Act of 1976 gives the United States the right to manage salmon stocks throughout their range (with the exception of the EEZ's of foreign countries).

Bilateral Agreement

Currently, Canada and the United States are pursuing bilateral agreements with Japan, South Korea and Taiwan concerning management of their driftnet operations. Status is currently under review.

HIGH SEAS SOUTHERN ALBACORE DRIFTNET FISHERY

Prepared for the
British Columbia Driftnet Conference
July 17-19, 1989

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HIGH SEAS SOUTHERN ALBACORE DRIFTNET FISHERY

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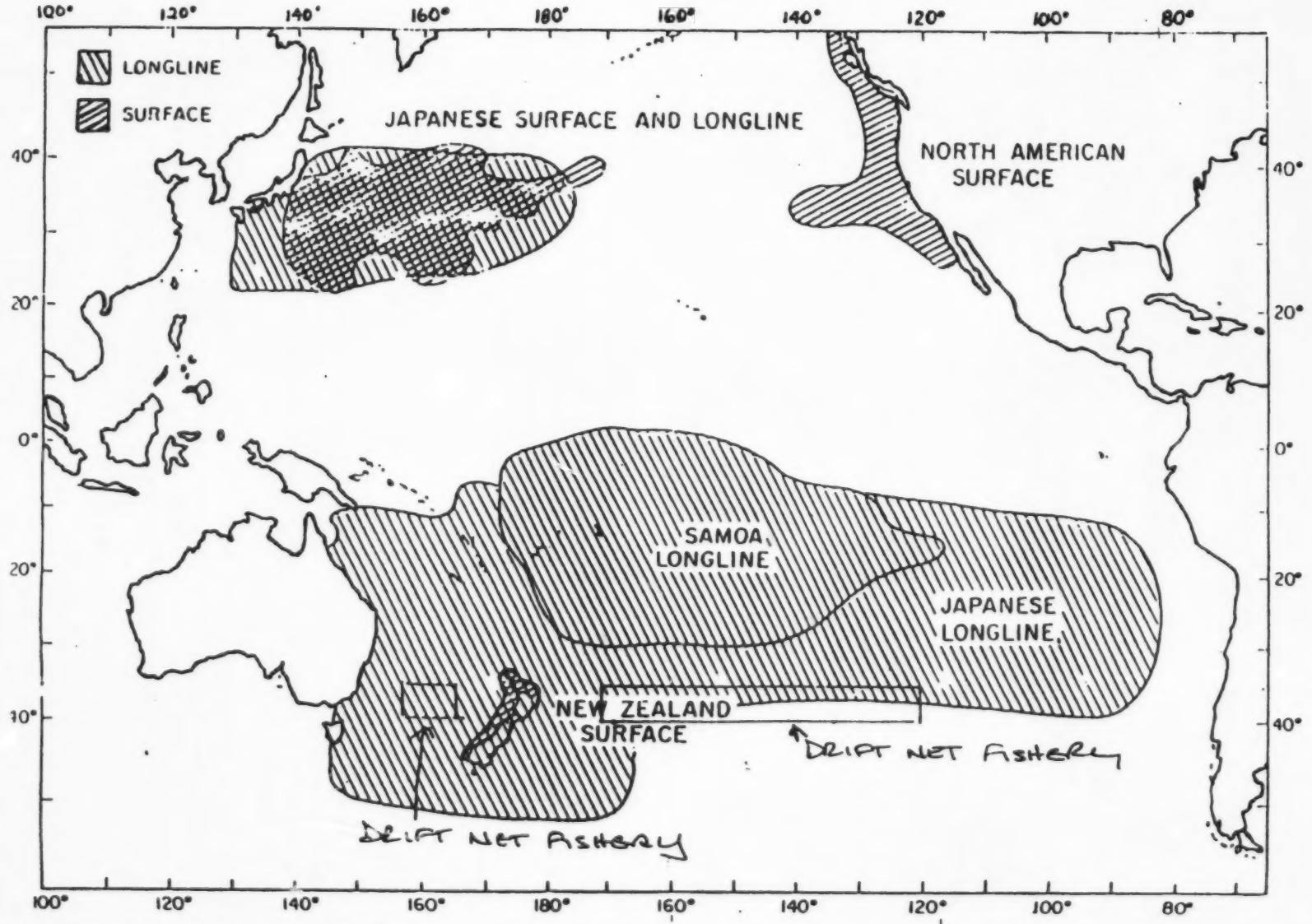

FIGURE 15. Major historical Pacific albacore fishery areas.

ATTACHMENT A

HIGH SEAS ALBACORE DRIFTNET FISHERY

I. BACKGROUND

A. THE FISHERY

The southern albacore fishery has, until recently, been carried out since the early 1950's primarily by longline vessels, as described below. Driftnet vessels have been fishing in the area since 1975 and exploratory troll vessels came to the area in the 1985-86 season. A chart describing the fishing areas of the different vessels is appended as Attachment A.

Until the dramatic increase in driftnet vessels in the 1988/89 season, interaction between the surface and longline fisheries did not present a problem. This was important for the Pacific Island countries involved in the fishery, and for those with development plans for the fishery.

1. Longline

Since 1952, southern albacore has been harvested by longline vessels first from Japan, than Taiwan and Korea. Catches have fluctuated from 25-50,000 t since 1960. A production model estimates sustainable yields of 35,000 t annually with a minor surface fishery of 2,000 t.

In the late 1970's, Pacific Island countries began to develop their own fishing capacity. PAFCO in Fiji now operates 17 longline vessels and charters others to supply its cannery, New Caledonia has 3 vessels, Tonga has 1 and Vanuatu charters longline vessels which provide employment to 130 Ni-Vanuatu as crew.

In addition, Pacific Island countries are licensing and receiving access fees from distant water fishing nations operating longline vessels that fish albacore. These countries are Vanuatu, Cook Islands, French Polynesia and New Zealand.

2. Troll

Exploratory troll fishing in the mid 1980's in the southern sub-tropical convergence zone indicated a viable surface fishery from December to April with a sustainable yield of about 10,000 t. At this level, there would be little impact on the longline fishery.

Over the past two years, up to 54 troll vessels from Canada, Fiji, French Polynesia, New Zealand and the USA harvested about 8-12,000 t of albacore.

3. Driftnet

Beginning in 1975, the Japanese have had a fleet of about 10 driftnet vessels fishing for southern albacore.

In the 1987/88 season, there were 7 Taiwanese driftnet vessels and perhaps 10 Japanese vessels operating in this fishery.

In 1988/89, about 110 Taiwanese, 10 Japanese and 2 Korean driftnet vessels operated in the fishery, catching an estimated 45,000 t of albacore. This is a dramatic increase from the previous season when about 15 Japanese and Taiwanese driftnet vessels harvested about 2,000 t.

4. Sustainable Harvest

The sustainable harvest for longline catches is estimated to be about 35,000 t annually, which means that this fishery is already at its sustainable level.

The estimated sustainable catch for the entire surface fishery (including driftnet and troll vessels) is about 10,000 t which was surpassed in 1988/89 by 3 to 4 times.

5. Interaction

The longline fishery targets older albacore while the surface fishery catches younger albacore. If driftnet harvests continue at last season's level, there will be a strong impact on the longline catches. This in turn will impact on the surface fishery.

In the 1988/89 seasons, there was significant interaction between the surface fisheries. Troll and driftnet vessels were targetting the same size class of albacore. Driftnet marked fish accounted for about 12 percent of catch. This interaction is evident when vessels operated more than 200 miles apart.

B. CONSULTATIONS

Consultations were held among concerned countries and organizations in November 1988, April 1989 and June 1989, immediately prior to the first meeting with the distant water driftnet fishing nations (Korea, Japan, Taiwan). These were organized by the Forum Fisheries Agency (FFA), and were attended by concerned FFA member countries French Polynesia, France (in respect of New Caledonia), the United States and South Pacific Commission (SPC). A legal consultation was held in May 1989 to prepare management options for the consideration of the third consultation.

1. First Consultation - November 1988

With the expected increase in driftnet vessels into the southern albacore fishery, concerned officials called for an informal consultation on this issue. The objective of the first consultation was to assess the effect of the driftnet operations on other fisheries and to review possible options to avert the likely damage.

Reviews on the following topics were completed:

- southern albacore fishery;
- driftnet technology; and
- national fisheries plans as they related to the southern albacore fishery.

The following conclusions were reached:

- the fishery is already at the maximum sustainable yield;
- driftnets are a navigation and safety hazard;
- driftnets endanger marine mammals;
- lost driftnets become marine debris that continue to fish indiscriminately;
- the fishery would probably collapse if 60-80 driftnet vessels entered the fishery; and
- the fishery is important to the development plans of Pacific Island countries.

The following plan of action was agreed:

- data gathering would be a priority;
- placing a regional embargo on the acceptance of driftnet caught albacore (canneries and cold stores);
- banning transhipment of driftnet caught albacore within the region;
- banning support of driftnet vessels;
- international publicity;
- investigation of existing legislation to strengthen the ban;
- request the International Maritime Organization (IMO) for information on international law and protocol on driftnets;
- seek extra-regional support from canneries and transhipment ports;
- request Australia and New Zealand to raise the issue during southern bluefin talks with Japan;

- request Pacific Island governments to raise the issue in bilateral fisheries access negotiations;

- request FFA to investigate the implications of expanding the multilateral Treaty on Fisheries with the United States to include this issue; and

- request the South Pacific Albacore Research Group (SPAR) to address as a priority the question of driftnet, troll and longline interaction.

2. Second Consultation - April 1989

This consultation was timed so that information from observers on troll vessels and preliminary information on the 1988/89 season could be reviewed.

The following areas were reviewed:

- the issue of the action plan of the First Consultation;

- national positions on albacore fisheries, landings and transhipments;

- recent driftnet, troll and longline fishing for southern albacore; and

- interaction between the different gear types.

A collective strategy was agreed as follows:

- continuation of collective actions by concerned countries;

- seek support of other Pacific Island nations;

- invite Korea, Japan and Taiwan to attend future consultations;

- emphasize resource conservation in this fishery;

- solicit support from the recreational fishing community, especially in relation to the by-catch of bill fishes; and

- identify a deadline for action.

3. Legal Consultation - May 1989

Forum Fisheries Agency coordinated a legal consultation to examine management options for the Third Consultation. The legal consultation considered the legal status of the driftnet fishery as a high seas activity, and concluded that these operations are not consistent with international legal requirements in relation to rights and obligations of high seas fisheries, conservation and management and environmental principles. Legal sources include the Convention on the Law of the Sea and international precedent (jurisprudence and international treaties and practice).

The consultation made recommendations on immediate unilateral action and other short and medium term strategies. Immediate unilateral action included:

- denial of port access (except for force majeure);
- denial of transhipment and supply could be affected under existing fisheries legislation;
- monitoring countries could require reporting by vessels carrying driftnets on entry to and exit from their zones;
- prohibition of possession of driftnets could be considered under existing fisheries legislation.

4. Third Consultation - June 1989

Countries met 23-28 June, 1989 for a third consultation to prepare for a meeting with the distant water driftnet fishing nations of Korea, Japan and Taiwan, which took place 26-28 June.

The third consultation reviewed the reports of the June meetings of SPAR and SPC on southern albacore.

The SPAR report noted that the best estimates of the 1988/89 catch, conservatively made on available data, indicated that 60-90,000 t of albacore were caught. The SPC Standing Committee on Tuna and Billfish in its report emphasized the importance of building a common database and exchanging information for research.

The third consultation also reviewed the activity of distant water fishing nations and the impacts of driftnet fishery. It noted that while more scientific information on the driftnet fishery, interactions with other fisheries and economic impacts need to be gathered, management decisions are often made on the basis of incomplete information to implement effective conservation measures.

The consultation agreed that for short term action, a cessation of driftnetting would be desirable as a temporary measure until a management regime could be agreed.

The consultation considered that a plan for monitoring the fishery, including cooperative collection and analysis of scientific data, an observer program and enforcement measures could be agreed in an interim regime.

In the absence of cooperation by Korea, Japan and Taiwan, high level political measures were endorsed, including consideration by Forum and the General Assembly. Other measures along the lines of those recommended by the legal consultation were also endorsed.

The consultation considered that a capability for surveillance of the driftnet fishery on the high seas will be important, and legally acceptable enforcement methods should be explored.

II. FIRST MEETING ON THE SOUTHERN ALBACORE DRIFTNET FISHERY AND SUBSEQUENT ACTION

A. FIRST MEETING ON SOUTHERN PACIFIC ALBACORE DRIFTNET FISHERY

The first meeting on the Southern Pacific Albacore Driftnet Fishery took place in Suva, Fiji, 26-28 June 1989, which reviewed developments in the southern albacore fishery and the status of the southern albacore stock.

The South Pacific nations affirmed their commitment to the principles in UNCLOS which includes the obligation to cooperation in the conservation and management of high seas fisheries resources and the concerns voiced by the SPAR Workshop.

They expressed their belief that the scientific data shows that the southern albacore stock is seriously at risk from the indiscriminate and irresponsible use of driftnets. Further, they agreed that a strong scientific basis is needed for the management of the southern albacore resource.

The South Pacific Nations called upon the distant water fishers to join in a public commitment to cease driftnet fishing in the region until a satisfactory management regime is established.

The Republic of Korea agreed to stop operations, but Japan and Taiwan did not.

Taiwan did not accept the South Pacific countries' call to cease operations, but in its statements indicated that the industry and Government of Taiwan are "very much concerned about the possibility of over-exploitation of the southern albacore resources in the South Pacific, and we are willing to cooperation with South Pacific Nations to establish a proper management regime, basing on the accurate scientific data. With the greatest sincerity of cooperation, we came to Suva to attend this informal consultation, trying to gather more information on the fishery, so that we may propose to our government and convince our industry to take necessary measures of cooperation.

"Since this is an informal consultation, our intention is only limited to exchange information and opinion. This delegation has not been authorized to make any commitment or promise of any kind in this meeting.

Japan also did not accept the call for cessation of activity. It stated that it is "extremely deplorable that coastal and trolling fishing nations issued the statement urging complete cease of driftnet fishery insisting as if albacore stock is at serious risk due to driftnet operation".

It announces it would take the following voluntary measures for the 1989/90 season:

1. To freeze the number of boats at 1988/89 level.

2. To dispatch a patrol vessel to the South Pacific.

3. To identify our efforts to collect relevant fishery data including coastal statistics.

Japan referred to the establishment of the FFA, and claimed it was "most unfortunate" that a broadly based regime (including Japan) was not established at that time.

While a further meeting was considered desirable, the time and venue was left for further consideration, and the views of the parties remain markedly divergent.

B. CONSIDERATION BY FORUM

The South Pacific Forum, an annual meeting of Heads of Government to consider and take action on policy matters, at its annual meeting in Tarawa 10-11 July 1989, considered the results of the above consultations and meeting, and issued the "Tarawa Declaration" (see Page 71) which resolved to seek the establishment of a regime for the management of albacore tuna in the South Pacific that would ban driftnet fishing from the region, and that such ban might be a first step to a comprehensive ban on such fishing.

The Forum Communique contains the following paragraph on driftnet fishing:

"The Forum expressed its profound concern that the damage now being done by pelagic driftnet fishing to the economy and environment of the South Pacific region. Given the catastrophic effects of this fishing technique on the lives of the peoples of the South Pacific, the Forum adopted the Tarawa Declaration.

Through the Declaration the Forum:

- resolved for the sake of this and succeeding generations of Pacific peoples to seek the establishment of a regime for the management of albacore tuna in the South Pacific that would ban driftnet fishing from the region; such a ban might then be a first step to a comprehensive ban on such fishing;

- determined, to this end, to convene an urgent meeting of regional diplomatic, legal and fisheries experts, to develop a Convention to give effect to its common resolve to create a zone free of driftnet fishing;

- called on the international community to support and cooperate in, the urgent conclusion of a Convention establishing the zone;

- resolved that individual member states of the South Pacific Forum will take all possible measures in the interim to prevent driftnet fishing within their waters, and to otherwise actively discourage operations of driftnet fishers;

- further resolved that member states acting individually and collectively will take what action they can within relevant international organizations to contribute to the cessation of this harmful form of fishing;

- commended the Republic of Korea for its decision to cease driftnet fishing in the region; and

- called on Japan and Taiwan to follow this example, and abandon immediately their damaging driftnet operations."

New Zealand offered to fund and host the Conference to consider the Convention, which is expected to take place in the near future, which the Forum noted with gratitude.